Table DR1. (Repository Item)
Sample locations and ages at Chitta Parwala section, Potwar Plateau, based on the magnetostratigraphic dating by Johnson et al. (1985), according to the magnetic polarity time-scale of Cande and Kent (1995).

Table DR2. (Repository Item)
Petrographic composition of analysed sandstone samples from the Kamlial Formation. Indices as in Table DR4, Dickinson (1985), and Ingersoll et al. (1993). Note that sample CP96–7A is the "Rainbow sandstone" that forms the boundary between the Kamlial and Chinji Formation.

Table DR3. (Repository Item)
Dense mineral assemblages in analysed sandstone samples from the Kamlial Formation. Indices as in Table DR4. Note that sample CP96–7A is the "Rainbow sandstone" that forms the boundary between the Kamlial and Chinji Formation.

Table DR4. Recalculated key indices for framework composition and dense-mineral suites.
[a] Eight key indices are calculated by the Gazzi-Dickinson method. L = Lv + Lc+ Lp + Lch + Lm + Lu = total aphanitic lithics (crystal size < 63 microns). Q + F + L = total main extrabasinal framework grains (excluding micas and dense minerals).
[b] P/F ratio is calculated by the Gazzi-Dickinson method. Seven other ratios are calculated by the traditional QFR method.
[c] HM = ZTR + Tit + A + P + S + LgM + Gt + HgM = total transparent dense minerals (density > 2.9 g/cm^3).

Appendix DR5. detailed description of Kamlial Formation sandstone petrography at Chitta Parwala section, Potwar Plateau.

Tables DR6–8. All data (summary; DR6) Ar/Ar total fusion (DR7) and incremental heating data (DR8) of single detrital white mica grains from the Kamlial Formation sediments. Note that sample CP96–7A is the "Rainbow sandstone" that forms the boundary between the Kamlial and Chinji Formation.

REFERENCES (Data Repository)

Cande, S.C., and Kent, D.V., 1995, Revised calibration of the geomagnetic polarity timescale for the Late Cretaceous and Cenozoic: Journal of Geophysical Research, v. 100, p. 6093–6095.

Table DR1: Location and age of samples from the Chitta Parwala section, Chinji village area, Potwar Plateau. Sediment succession dated at 18-14 Ma by Johnson et al. (1985).

Sample no.	Metres above base of section	Age (Ma)
CP96-7A	570	13.9
CP96-6A	540	14.3
CP96-5.5A	485	14.8
CP96-5A	470	14.9
CP96-4.5A	410	15.5
CP96-3.5A	350	16
CP96-3A	330	16.1
CP96-2.5A	285	16.4
CP96-2A	250	16.7
CP96-1.5A	130	17.4
CP96-1.2A	68	17.7
CP96-1A	14	18

Table DR2

KAMLIAL	m up section	Age (Ma)	grain size (micron)	Qt	F	L	Total	Qm	F	Lt	Total	Qm	P	K	Total	Qp	Lvm	Lsm	Total	Lm	Lv	Ls	Total	P/F	Q	F	Lv	Lc	Lp	Lch	Lm	Lu	TOT	Qp/Q	Qv/Q	P/F	Vm/V	D/CE	Mb/M	slate/metasdst.	phyllite	micasc./gneiss	Ls	Lm1 (slate)	Lm2 (phyllite)		mica %	biotite/muscovite	authigenic carb. %
7A	570	13.9	260	23	23	55	100.0	21	23	56	100.0	48	31	21	100.0	2	57	41	100.0	54	21	25	100.0	59	21	25	9	5	8	1	27	4	100.0	28	14	59	31	50	38	18	74	8	34	12	54	100.0	4	83	9
6A	540	14.3	180	28	8	65	100.0	26	8	66	100.0	77	17	6	100.0	2	11	86	100.0	60	8	32	100.0	73	27	8	5	9	11	1	39	0	100.0	14	6	73	n.d.	n.d.	3	41	49	9	34	27	39	100.0	5	40	24
5.5A	485	14.8	215	22	23	54	100.0	20	23	56	100.0	46	37	17	100.0	4	40	57	100.0	56	23	21	100.0	68	21	23	13	5	5	1	30	1	100.0	17	17	68	50	n.d.	21	18	75	7	28	13	59	100.0	3	100	2
5A	470	14.9	320	29	12	59	100.0	27	12	61	100.0	70	14	16	100.0	3	23	74	100.0	61	11	28	100.0	46	27	12	7	8	8	2	36	2	100.0	35	10	46	31	29	6	38	51	11	32	26	42	100.0	3	71	21
4.5A	410	15.5	150	30	21	49	100.0	25	21	53	100.0	55	38	8	100.0	8	61	31	100.0	38	36	27	100.0	83	25	21	19	2	8	4	20	0	100.0	4	24	83	44	n.d.	31	23	77	0	68	8	25	100.0	1	100	15
3.5A	350	16.0	140	32	22	46	100.0	32	22	46	100.0	60	26	14	100.0	0	39	61	100.0	55	22	23	100.0	65	32	22	10	5	5	0	25	1	100.0	9	14	65	43	55	16	24	71	5	30	17	53	100.0	5	77	6
3A	330	16.1	210	29	14	57	100.0	26	14	60	100.0	64	18	18	100.0	5	44	51	100.0	42	24	35	100.0	50	26	14	14	10	8	3	24	1	100.0	28	25	50	45	17	23	25	59	16	48	13	39	100.0	2	75	31
2.5A	285	16.4	190	24	22	54	100.0	22	22	57	100.0	50	33	17	100.0	4	38	57	100.0	39	24	36	100.0	67	22	22	14	10	8	2	22	1	100.0	17	33	67	63	17	19	42	53	6	49	21	30	100.0	5	100	38
2A	250	16.7	195	33	26	41	100.0	30	26	44	100.0	53	30	17	100.0	8	49	44	100.0	31	34	35	100.0	64	30	26	15	3	9	3	13	1	100.0	12	37	64	60	n.d.	46	13	79	8	53	6	41	100.0	2	100	4
1.5A	130	17.4	225	29	19	53	100.0	28	19	53	100.0	60	35	5	100.0	1	49	50	100.0	51	31	17	100.0	87	29	19	17	3	6	0	27	1	100.0	17	25	87	48	n.d.	25	35	56	8	27	26	47	100.0	5	89	28
1A	14	18.0	230	26	33	41	100.0	25	33	42	100.0	43	44	13	100.0	3	64	34	100.0	26	46	28	100.0	77	25	33	19	0	10	1	10	1	100.0	10	15	77	50	n.d.	43	43	50	7	61	17	22	100.0	2	50	16

Table DR3

KAMLIALHM

Sample	m up section	Age (Ma)	HM% VFS-FS	% transparent	% opaque	% turbid	Total	zircon	tourmaline	rutile	sphene/brookite	hornblende	glaucophane	tremolite	pyroxenes	spinel	epidote	clinozoisite	chloritoid	garnet	staurolite	andalus./kyanite	**Total**
7A	570	13.9	1.6	33	8	59	100.0	1	6	4	2	0	0	0	0	0	44	3	0	41	0	1	100.0
6A	540	14.3	0.5	52	15	33	100.0	1	15	3	0.4	1	0	0	0	0	1	0	1	77	0.4	0	100.0
5.5A	485	14.8	0.7	34	11	54	100.0	1	1	2	3	0	0	0	0	1	49	3	0	41	0	0	100.0
5A	470	14.9	0.4	40	20	40	100.0	1	8	1	0	0	0	0	0	0.5	31	1	0.5	51	7	0	100.0
4.5A	410	15.5	0.7	40	12	47	100.0	0	6	1	5	4	0	0.5	0	2	46	2	0	31	3	1	100.0
3.5A	350	16	0.8	37	14	49	100.0	0.4	8	1	0.4	0	0.4	0.4	0	0	40	1	0	49	0	0	100.0
2A	250	16.7	0.7	33	**23**	44	100.0	4	4	0.4	2	0	0	0	0	0.4	34	3	2	51	0	0	100.0
1.5A	130	17.4	0.7	38	**17**	45	100.0	0.5	4	2	3	3	0	0	0	3	42	4	1	36	3	0	100.0
1.2A	68	17.7	0.4	41	**24**	35	100.0	1	7	3	3	0.4	0.4	1	1	0	33	5	1	44	0	0	100.0
1A	14	18	0.6	14	**45**	41	100.0	2	4	3	1	2	0	0	0	0	11	1	3	73	0	0	100.0

Table DR4 --- Recalculated key indices for framework composition and dense-mineral suites.

Framework Composition (QFL%)[a]	
Q	quartz
F	feldspars
Lv	volcanic and subvolcanic lithic fragments
Lc	carbonate lithic fragments
Lp	terrigenous lithic fragments
Lch	chert lithic fragments
Lm	metamorphic lithic fragments
Lu	ultramafic serpentine lithic fragments
Metasedimentary lithic fragments	
Lms_1	slate to meta-sandstone grains
Lms_2	phyllite to quartz/sericite grains
Lms_3	quartz/mica to micaschist and gneiss grains
Ratio parameters (%)[b]	
Qp/Q	polycrystalline quartz (not including chert) / total quartz
Qv/Q	clear monocrystalline quartz with straight extinction and euhedral or embayed outlines / total quartz
P/F	plagioclase (not including chessboard-albite) / total feldspars and feldspathoids
Vm/V	microlitic and lathwork to diabase rock fragments / total volcanic and subvolcanic rock fragments
Cd/C	dolostone rock fragments / total carbonate rock fragments
Mb/M	metabasite rock fragments / total metamorphic rock fragments
Dense Mineral Suites (HM%)[c]	
ZTR	ultrastable minerals (zircon, tourmaline, rutile)
Tit	titanium minerals (sphene, brookite)
A	amphiboles
P	pyroxenes
S	spinel
LgM	low-grade metamorphic minerals (E = epidotes; Chtd = chloritoid)
Gt	garnet
HgM	high-grade metamorphic minerals (St= staurolite)

Detailed petrographic description of the Kamlial Formation sandstones at Chitta Parwala, Chinji village, Potwar Plateau.

Petrography: Framework composition (Fig. 2, Table DR4 defines parameters)

The Kamlial Formation of the Chitta Parwala section, Chinji village region, Potwar Plateau, consists of quartz-poor, litho-feldspathic sandstones (average composition Q 26 F 21 Lv 13 Lc 5 Lp 8 Lch 2 Lm 24 Lu 1). Detritus was derived from several distinct sources including dominant volcano-plutonic rocks, sedimentary to very low-grade metasedimentary rocks, and minor higher-grade metamorphic rocks and ophiolites. Detrital modes straddle the boundary between "magmatic arc" and "recycled orogen" provenance fields in standard QFL plots (Dickinson & Suczek, 1979; Dickinson, 1985), with samples 5A and 6A (depositional ages of 14.9 Ma and 14.3 Ma) plotting on the "recycled orogen" side and other samples on the "magmatic arc" side (Fig. 2). This is significantly different not only from the petrography of the older Murree Formation and the younger Siwalik Group "Gabir/Chinji section" between 9 and 11 Ma, but also from the Kamlial Formation of the Kohat Plateau to the west (Abbasi & Friend, 1989). All of these other clastic wedges plot in the "recycled orogen" provenance field of Dickinson (1985; Fig. 2, QFL plot**).** Thus, the Kamlial Formation of the Chitta Parwala section is the only Himalayan foreland basin unit studied so far, beside the Chulung La Formation of the Tethys Himalaya (Garzanti, 1986), characterized by a distinct "magmatic arc" signature.

Examination of constituent grains shows that quartz is mainly monocrystalline, frequently showing straight extinction or subhedral outlines indicating significant supply

from felsic volcanic and subvolcanic rocks; polycrystalline grains are more abundant in coarser-grained samples (Q 21 – 32, Qp/Q Ω 35, Qv/Q Ω 37). Abundant feldspars indicate supply from igneous rocks; plagioclase, also derived from metabasite and intermediate to mafic volcanic rocks, prevails over K-feldspars (F mostly 14 - 33 and P/F mostly 50 – 87). Granitoid grains include dominant felsic to intermediate coarse-grained rock fragments but also several granophyre and aplite lithics. Common volcanic to subvolcanic grains include felsitic and microlitic types from evolved volcanic arc products, but also some lathwork and diabase to metadiabase grains from mafic crustal sequences, possibly including ophiolites emplaced along the Indus suture zone (Lv mostly 9 – 19, Vm/V 31 – 63). Such mafic components are more abundant in the lower part of the Kamlial Formation, decreasing upwards (Vm/V 48-63 until 16.4 Ma, Vm/V 31-50 thereafter). Decreasing detritus from mafic crustal sources are partly compensated by a slight increase upward in serpentineschist to cellular serpentinite ultramafic grains from mantle rocks (Lu Ω 1 until 15 Ma, Lu Ω 4 thereafter) hinting at progressive dissection of ophiolitic sequences. Carbonate lithic grains include mainly microsparites, but also recrystallized dolostones and several grains with identifiable benthic to planktonic faunas, indicating provenance from both platform carbonates and deep-water limestones (Lc Ω10, Cd/C 17 - 55). Progressive increase in carbonate grains (Lc from 0 to 3, to mainly 5-10) is recorded between 16.7 and 16.4 Ma. Terrigenous grains include shale to miceous siltstone lithics and hematitic mudrock clasts from continental redbeds; the few coarser-grained arenaceous rock fragments are either quartzose sandstones or volcaniclastic/pyroclastic to arkosic sandstones (Lp 5 – 12). Chert grains include red hematitic to yellow limonitic clasts commonly containing radiolarians (Lch Ω 4).

Abundant and varied metamorphic lithics include largely very low- to low-grade metapelite (slate, phyllite), metafelsite (metasandstone, porphyroid, quartz-sericite) and metabasite (metadiabase, epidosite, chloritoschist, prasinite, blueschist) grain types (Lm mostly 10 – 30, Mb/M mostly 16 – 46; Lms_1 13 - 43 Lms_2 49 - 79 Lms_3 Ω20). Mica flakes (dominantly biotite, with abundant muscovite only in sample 6A) are quite common (Ω5% of total framework grains).

Dense minerals. (Fig 3)

Dense mineral assemblages are dominated by garnet (mainly 31 – 51% of transparent dense minerals) and epidotes (mainly 37 – 52%), associated with minor tourmaline (dravite, schorlite; mainly 4 – 8%), rutile, sphene, zircon, staurolite, chloritoid, chrome spinel (mainly red to coffee-brown, subordinately yellow grains), and amphiboles (hornblende, glaucophane, tremolite). The four basal samples (18 to 16.7 Ma) are enriched in ultradense species with respect to the overlying samples (16 to 14 Ma), including opaques (17 – 45% of total dense minerals, vs. 8 – 20% higher up), zircon, rutile (T/ZTR ratios 47 – 72, vs. mostly 80-86), and garnet (73% of transparent dense minerals in the basal sample).

Anomalous samples

Intercalated in the upper part of the unit (at 14.9 and 14.3 Ma) are sandstones with significantly different composition with respect to all other samples. Samples 5A and 6A have lowest proportions of feldspars and volcanic detritus (including lithic grains, volcanic quartz and plagioclase), and highest very low- to low-grade metapelite and metafelsite lithics, with

virtually no metabasite (Qv/Q 6 – 10; F 8 – 12; Lv 5 – 7; Lm 36 – 39, Mb/M 3 – 6). In particular, sample 6A records the lowest content of feldspars, volcanic, metabasite and ultramafic detritus, and the highest content of very low to low-grade metapelite and metafelsite lithic fragments; it is the only sample where muscovite prevails over biotite. Dense minerals in sample 6A, significantly different from the remainder of the Kamlial Formation sediments, are dominated by garnet (77%) and tourmaline (18%) with some chloritoid and staurolite, and negligible epdidotes (1%). Sample 5A is more similar to the other samples, but somewhat low in epidotes (32%), and high in tourmaline (8%) and staurolite (7%)

Diagenesis and other factors controlling sandstone composition.

Abundance of labile metamorphic and volcanic lithic fragments in the Kamlial Formation indicates that detrital modes are not drastically affected by mechanical abrasion or chemical weathering or diagenesis. Calcite replacements are extensive in many samples (Ω38% of the rock); negative correlation with both K-feldspar and plagioclase suggests selective leaching of detrital feldspars. Other interstitial components include phyllosilicate epimatrix and tectosilicate overgrowths (Ω7% and Ω2% of the rock, respectively). Unstable volcanic and metabasite lithics are commonly altered, and their distinction is problematic in several samples (non reapportioned alterites are 3% of framework grains on average).

Dense minerals account for only 0.4 – 0.8% of the very fine to fine sand fraction, hinting at extensive intrastratal solution of unstable mafic components. This would also explain the lack of pyroxenes (but for sporadic augite) in spite of conspicuous arc sources. Due to diagenetic

(and also possibly pre-depositional) leaching of pyroxenes, preservation of gabbroic rock fragments is not expected.

Low detrital quartz and ultrastable dense minerals in the Kamlial sandstones (Q 21 – 32; ZTR Ω 18) suggest that they consist of first-cycle detritus from magmatic-arc and metamorphic source rocks. This contrasts with the co-eval Upper Dharamsala Formation foreland basin sediments in India (Figs 2 & 3) (Q 41 – 55; ZTR 21 – 44) (White et al., 2002) where significant recycling of quartzose clastic sediments to low grade metasediments is indicated. Grain-size control was effectively minimized by using the Gazzi-Dickinson point-counting method and by selecting mostly fine sand-sized samples for petrographic study.

Table DR6

CP96-7A (13.9 Ma)

Crystal No.	Age	±	s.d. (Ma)
500u+			
fs34	14.1	±	0.7
fs24	14.6	±	0.5
fs35	15.2	±	0.3
fs12	15.9	±	0.2
fs25	18.4	±	0.1
fs9	25.5	±	0.1
fs29	26.3	±	0.2
fs11	27.9	±	0.1
fs10	32.6	±	0.1
fs7	39.8	±	0.1
fs22	42.9	±	0.2
fs27	43.1	±	0.2
fs3	61.1	±	0.2
fs28	111.8	±	0.9
fs15	113.0	±	0.4
fs13	115.3	±	0.3
fs5	117.8	±	0.4
fs8	137.4	±	0.4
fs30	145.5	±	2.1
fs23	184.6	±	1.9
fs33	193.5	±	2.1
fs21	325.4	±	3.4
fs2	328.2	±	1.0
fs32	402.8	±	1.4
250-500u			
fs17	15.4	±	0.4
fs20	23.8	±	0.9
fs23	25.4	±	0.4
fs19	26.1	±	0.7
fs24	27.5	±	0.7
fs22	29.0	±	1.0
fs13	32.6	±	0.9
fs15	36.0	±	0.3
fs10	38.5	±	0.4
fs11	45.3	±	1.2
fs12	68.2	±	0.4
fs16	107.4	±	0.7
fs21	319.5	±	1.1
fs14	375.7	±	1.0

CP96-6A (14.3 Ma)

Crystal No.	Age	±	s.d. (Ma)
fs32	34.3	±	0.5
fs28	55.1	±	0.3
fs7	79.7	±	0.5
fs27	81.4	±	0.3
fs20	101.6	±	0.2
ih34*	141.6	±	0.9
ih24*	154.4	±	1.6
fs16	224.0	±	0.4
fs33	238.2	±	0.8
fs21	255.2	±	0.6
fs5	255.5	±	0.6
fs29	259.5	±	0.6
fs8	266.4	±	0.8
fs6	268.3	±	0.6
ih4*	270.6	±	1.3
fs25	271.8	±	0.4
fs9	289.8	±	0.9
fs3	292.0	±	1.1
fs19	322.0	±	0.7
fs31	324.1	±	0.5
fs14	332.2	±	0.9
fs11	332.8	±	0.9
fs35	335.8	±	0.6
fs30	338.2	±	0.7
fs15	344.7	±	0.7
fs1	359.6	±	1.0
fs2	388.8	±	1.7
fs13	391.9	±	0.9
fs10	397.6	±	0.9
fs17	431.6	±	1.7
fs26	455.2	±	0.9

CP96-5.5A (14.8 Ma)

Crystal No.	Age	±	s.d. (Ma)
fs26	15.7	±	0.8
fs33	15.8	±	0.5
fs27	16.0	±	0.2
fs16	20.5	±	0.5
fs25	21.0	±	0.1
fs32	21.1	±	0.6
fs5	24.5	±	0.5
fs34	24.6	±	0.5
fs28	24.7	±	0.7
fs31	25.5	±	0.6
fs29	26.0	±	0.5
fs23	26.1	±	0.2
fs12	26.7	±	0.5
fs35	27.0	±	0.5
fs10	28.8	±	0.5
fs21	28.8	±	0.2
fs17	29.0	±	0.4
fs14	30.4	±	0.5
fs13	40.3	±	0.4
fs30	42.3	±	0.5
fs24	49.0	±	0.4
fs15	77.6	±	0.5
fs19	93.4	±	0.5
fs20	258.9	±	1.5
fs22	294.6	±	1.0

CP96-5A (14.9 Ma)

Crystal No.	Age 14.9	±	s.d. (Ma)
fs20	17.9	±	0.1
fs29	18.1	±	0.2
fs4	18.2	±	0.0
fs32	18.3	±	0.2
fs30	18.4	±	0.2
fs27	18.4	±	0.1
fs10	18.5	±	0.1
fs34	18.5	±	0.1
fs16	18.6	±	0.0
fs21	18.7	±	0.2
fs14	18.7	±	0.1
fs12	18.8	±	0.2
ih2 +	19.1	±	0.2
fs9	19.6	±	0.1
fs6	19.7	±	0.0
fs3	20.6	±	0.0
fs15	26.9	±	0.3
fs28	31.7	±	0.1
fs1	40.3	±	0.0
fs35	46.7	±	0.1
fs11	55.5	±	0.5
fs8	57.9	±	0.3
fs19	60.6	±	0.1
fs26	74.2	±	1.2
fs13	78.2	±	0.1
fs23	92.5	±	0.2
fs17	101.0	±	0.3
fs22	102.4	±	0.2
fs31	102.6	±	0.2
ih33 +	106.0	±	0.2
fs7	106.4	±	0.2
fs5	118.4	±	0.1
ih24 +	170.1	±	0.2

CP96-4.5A (15.5 Ma)

Crystal No.	Age	±	s.d. (Ma)
fs32	16.2	±	0.9
ih10 +	17.0	±	0.2
ih11 +	17.0	±	0.1
ih17 +	17.5	±	0.3
ih14 +	17.7	±	0.5
fs15	18.0	±	2.2
fs26	19.3	±	1.7
fs13	19.8	±	1.1
fs33	20.2	±	0.8
fs22	20.8	±	6.9
fs20	20.9	±	0.5
fs9	20.9	±	0.8
fs34	21.4	±	0.4
fs28	21.9	±	0.7
fs2	23.9	±	4.3
fs3	24.9	±	1.4
fs27	30.2	±	0.3
fs8	30.3	±	2.0
fs23	31.2	±	0.2
fs31	31.5	±	2.5
fs6	32.1	±	0.3
fs25	33.6	±	2.2
fs1	34.0	±	0.6
fs16	34.3	±	11.2
fs21	37.4	±	4.9
fs12	42.1	±	2.0
fs7	46.7	±	0.4
fs29	71.9	±	1.7
fs24	107.8	±	0.3
fs5	254.4	±	1.5
fs4	276.9	±	2.3
fs35	335.7	±	1.0
fs19	357.5	±	2.2
fs30	430.4	±	3.4

CP96-3.5A (16.0 Ma)

Crystal No.	Age	±	s.d. (Ma)
fs34	14.5	±	0.7
fs7	16.0	±	1.1
fs3	16.2	±	0.3
ih25 +	16.3	±	0.4
fs26	16.5	±	0.9
fs24	16.8	±	0.2
fs23	16.9	±	1.4
ih11 +	17.1	±	0.5
fs8	17.2	±	1.1
ih10 +	17.2	±	0.6
fs27	17.3	±	0.3
ih6 +	17.3	±	0.3
fs31	17.6	±	0.7
fs19	17.8	±	0.5
fs32	17.8	±	0.4
fs12	18.1	±	1.4
fs16	18.5	±	1.5
ih14 +	18.6	±	0.7
fs33	19.6	±	0.8
fs28	20.6	±	1.1
fs17	22.0	±	0.9
fs4	25.5	±	0.6
fs22	26.1	±	0.1
ih9 +	32.2	±	0.5
ih13 +	35.2	±	0.7
fs29	41.6	±	1.1
ih5 +	50.9	±	0.5
fs30	54.9	±	0.8
fs20	97.6	±	2.2
fs1	220.9	±	2.5
fs2	221.3	±	0.7

CP96-2A (16.7 Ma)

Crystal No.	Age	±	s.d. (Ma)
fs28	18.4	±	0.2
fs6	19.6	±	0.4
fs22	20.5	±	0.3
fs19	20.6	±	0.1
fs24	20.8	±	0.3
fs33	23.2	±	1.0
fs7	24.6	±	0.3
fs32	26	±	0.6
fs25	26.4	±	0.1
fs27	28	±	0.6
fs16	28.2	±	0.6
fs30	29.1	±	1.2
fs23	31	±	0.5
fs15	31	±	0.2
fs21	33	±	0.2
fs34	33.4	±	0.2
fs9	34.5	±	0.1
fs1	35	±	0.2
fs12	38.7	±	0.5
fs14	42.1	±	0.4
fs8	49.3	±	0.4
fs29	53.3	±	0.4
fs3	62.1	±	5.6
fs13	73.1	±	0.8
fs2	87.8	±	1.3
fs31	182.4	±	0.8
fs26	201.6	±	0.9
fs35	396.2	±	1.2
fs11	417.3	±	0.9

CP96-1.5A (17.4 Ma)

Crystal No.	Age	±	s.d. (Ma)
ih7 +	18.9	±	0.2
ih5 +	25.0	±	0.3
fs8	25.2	±	0.8
fs22	25.2	±	1.2
fs4	26.5	±	0.4
fs26	26.8	±	2.5
fs28	26.8	±	0.6
fs17	29.2	±	1.0
fs35	29.4	±	0.2
fs16	30.6	±	2.4
fs10	31.3	±	0.9
fs13	31.7	±	2.4
fs34	31.9	±	2.0
fs30	32.8	±	0.5
fs31	46.5	±	1.2
fs11	47.9	±	0.2
fs12	53.1	±	1.8
fs27	61.7	±	0.5
fs21	74.5	±	0.2
fs6	74.9	±	2.2
fs19	129.6	±	0.5
fs9	150.3	±	0.5
fs1	179.0	±	3.8
fs14	179.3	±	0.8
fs29	180.8	±	3.0
fs15	195.2	±	1.7
fs25	203.4	±	0.4
fs3	291.9	±	1.1
fs20	363.0	±	1.0

CP96-1.2A (17.7 Ma)

Crystal No.	Age	±	s.d. (Ma)
ih17 +	24.6	±	0.5
fs14	25.0	±	0.3
ih16 +	25.0	±	0.2
fs33	26.3	±	0.9
fs30	27.1	±	0.6
fs1	28.5	±	0.6
fs20	30.6	±	0.4
fs31	32.1	±	3.7
fs25	32.7	±	1.4
fs32	32.8	±	0.2
fs27	33.3	±	0.3
fs22	34.2	±	0.2
fs12	35.4	±	0.5
fs3	36.2	±	0.2
fs15	41.0	±	0.2
fs28	59.4	±	0.5
fs21	74.0	±	0.2
fs4	74.9	±	0.4
ih11*	77.7	±	0.4
fs8	78.7	±	0.6
fs7	113.2	±	0.4
fs19	150.1	±	0.5
fs34	157.9	±	0.5
fs24	163.8	±	1.1
fs6	169.0	±	0.9
fs26	184.0	±	0.8
fs23	208.1	±	2.1
fs5	231.3	±	0.7
fs29	312.7	±	0.6
fs10	331.3	±	1.1
fs2	362.7	±	1.1

CP96-1.0A (18.0 Ma)

Crystal No.	Age	±	s.d. (Ma)
fs23	23.1	±	0.7
fs19	25.5	±	0.6
fs3	25.8	±	1.1
fs6	26.2	±	1.1
fs7	26.9	±	0.4
fs35	28.7	±	0.3
fs30	30.2	±	0.2
fs22	30.4	±	0.3
fs29	30.4	±	0.4
ih33 +	30.5	±	0.3
ih17 +	32.5	±	0.5
fs20	32.7	±	1.2
fs31	32.9	±	0.2
ih15 +	33.8	±	0.6
ih34 +	34.3	±	0.2
fs4	34.5	±	0.2
fs1	37.5	±	0.2
ih27 +	38.2	±	0.4
fs28	38.4	±	0.5
fs24	43.7	±	0.3
fs9	45.1	±	0.6
fs25	45.8	±	0.3
fs26	77.7	±	0.3
fs2	80.2	±	1.1
fs8	90.7	±	0.6
fs10	98.9	±	0.2
fs32	102.5	±	0.5
fs11	130.1	±	0.6
fs16	154.4	±	0.4
fs21	174.5	±	0.6
ih35*	297.3	±	1.5
fs13	351.1	±	0.8
fs14	357.5	±	1.2
fs12	426.8	±	1.3

fs00: Single crystal fusions of degassed grains; crystals are numbered by individual 2 mm well in the 35-hole Cu irradiation disk
ih00*: Total gas age without initial degassing steo of disconcordant step-heating experiment.
ih00 +: Weighted Mean plateau age of concordant step-heating experiment.
Ages calculated relative to FC-1 Sanidine at 28.02 Ma (Renne et al 1999); errors reported as 1 s.d. of analytical precision only.

Table DR7

Sample (a)	40Ar/39Ar (b)	37Ar/39Ar (b)	36Ar/39Ar (b)	40Ar s.d. (%)	39Ar s.d. (%)	37Ar s.d. (%)	36Ar s.d. (%)	40ArR (mol)	40ArR (c)	40ArK (c)	39ArCa (c)	36ArCa (c)	K/Ca (%)	39Ar (%)	Apparent Age (Ma)	+- (d)	1 s.d. (Ma)
CP96-7A		Wh.mica 0.5-1.0 mm		J =	0.002735	+-	8.2E-06	(1 s.d.)		Exp. No.:	yn1l0028.IHD		Total gas age =		110.2	+-	0.4
fs34	3.617	0.003180	0.002528	0.44	0.37	9.86	20.82	9.50E-15	79.30	0.01	0.00	0.03	154.1	2.5	14.1	+-	0.7
fs24	4.016	0.003165	0.003539	0.23	0.09	8.34	10.43	7.10E-15	74.00	0.01	0.00	0.02	154.8	1.8	14.6	+-	0.5
fs35	3.635	0.000908	0.001809	0.42	0.27	23.41	10.4	1.30E-14	85.30	0.01	0.00	0.01	539.9	3	15.2	+-	0.3
fs12	3.635	0.001600	0.001355	0.09	0.13	10.78	8.26	1.30E-14	89.00	0.01	0.00	0.03	306.3	2.9	15.9	+-	0.2
fs25	4.701	0.028450	0.003200	0.27	0.19	0.87	2.93	1.40E-14	79.90	0.01	0.00	0.24	17.22	2.8	18.4	+-	0.1
fs9	5.808	0.003947	0.002065	0.07	0.13	1.74	2.09	4.10E-14	89.50	0.01	0.00	0.05	124.1	5.8	25.5	+-	0.1
fs29	6.165	0.002625	0.002706	0.26	0.2	4.64	3.35	2.70E-14	87.00	0.01	0.00	0.03	186.6	3.7	26.3	+-	0.2
fs11	6.343	0.001263	0.002191	0.1	0.13	7.34	4.1	3.50E-14	89.80	0.01	0.00	0.02	388.1	4.5	27.9	+-	0.1
fs10	7.135	0.001615	0.001600	0.07	0.09	7.64	4.51	3.40E-14	93.40	0.01	0.00	0.03	303.5	3.8	32.6	+-	0.1
fs7	8.755	0.046490	0.002015	0.08	0.07	0.29	3.01	6.00E-14	93.20	0.00	0.00	0.62	10.54	5.4	39.8	+-	0.1
fs22	9.428	0.004575	0.002140	0.25	0.27	2.96	4.55	4.10E-14	93.30	0.00	0.00	0.06	107.1	3.4	42.9	+-	0.2
fs27	9.623	0.001765	0.002668	0.11	0.19	9.52	4.87	3.00E-14	91.80	0.00	0.00	0.02	277.6	2.5	43.1	+-	0.2
fs3	12.966	0.002721	0.001268	0.1	0.12	3.42	5.25	7.20E-14	97.10	0.00	0.00	0.06	180.1	4.2	61.1	+-	0.2
fs28	24.55	0.004672	0.003980	0.58	0.34	12.12	8.79	2.10E-13	95.20	0.00	0.00	0.03	104.9	6.5	111.8	+-	0.9
fs15	25.27	0.002706	0.005533	0.07	0.17	8.9	2.65	3.50E-13	93.50	0.00	0.00	0.01	181.1	11	113.0	+-	0.4
fs13	24.59	0.001326	0.001570	0.09	0.11	13.85	6.59	1.40E-13	98.10	0.00	0.00	0.02	369.5	4.4	115.3	+-	0.3
fs5	25.23	0.003166	0.001845	0.07	0.19	4.39	4.45	1.90E-13	97.80	0.00	0.00	0.05	154.8	5.7	117.8	+-	0.4
fs8	29.71	0.001924	0.002649	0.15	0.09	9.73	4.85	8.90E-14	97.40	0.00	0.00	0.02	254.6	2.3	137.4	+-	0.4
fs30	33.7	0.007152	0.010114	0.98	0.97	9.42	3.25	1.90E-13	91.10	0.00	0.00	0.02	68.51	4.6	145.5	+-	2.1
fs23	41.12	0.004381	0.005809	0.21	1.07	13.03	4.77	3.30E-13	95.80	0.00	0.00	0.02	111.8	6.3	184.6	+-	1.9
fs33	45.17	0.007711	0.012761	0.76	0.67	11.11	4.93	2.10E-13	91.70	0.00	0.00	0.02	63.54	3.7	193.5	+-	2.1
fs21	74.95	0.006533	0.009019	0.42	1.07	9.64	4.78	3.10E-13	96.40	0.00	0.00	0.02	75	3.2	325.4	+-	3.4
fs2	73.52	0.004185	0.001893	0.1	0.24	8.92	13.19	3.60E-13	99.20	0.00	0.00	0.06	117.1	3.6	328.2	+-	1.0
fs32	94.28	0.000494	0.009462	0.13	0.24	50	5.97	3.50E-13	97.00	0.00	0.00	0.00	992.6	2.8	402.8	+-	1.4
CP96-7A		Wh. mica 250-500 u		J =	0.002735	+-	8.2E-06	(1 s.d.)		Exp. No.:	yn1l0030.IHD		Total gas age =		80.5	+-	0.3
fs17	3.554	0.001486	0.001426	0.23	0.12	17.82	23.05	5.10E-15	88.10	0.01	0.00	0.03	329.7	8.8	15.4	+-	0.4
fs20	5.905	0.001797	0.003580	0.14	0.1	19.39	18.45	3.90E-15	82.10	0.01	0.00	0.01	272.6	4.3	23.8	+-	0.9
fs23	5.674	0.000747	0.001666	0.09	0.22	16.16	19.26	8.70E-15	91.30	0.01	0.00	0.01	656.3	9	25.4	+-	0.4
fs19	6.173	0.001359	0.002835	0.23	0.23	24.35	18.6	5.30E-15	86.40	0.01	0.00	0.01	360.5	5.3	26.1	+-	0.7
fs24	5.997	0.000264	0.001314	0.2	0.22	50	39.71	6.90E-15	93.50	0.01	0.00	0.01	1854	6.6	27.5	+-	0.7
fs22	6.373	0.000483	0.001545	0.17	0.39	50	49.06	4.00E-15	92.80	0.01	0.00	0.01	1015	3.6	29.0	+-	1.0
fs13	7.026	0.003448	0.001209	0.24	0.24	20.42	57.64	5.00E-15	94.90	0.01	0.00	0.08	142.1	4	32.6	+-	0.9
fs15	8.044	0.012839	0.002287	0.15	0.17	1.47	7.53	2.40E-14	91.60	0.00	0.00	0.15	38.16	17.5	36.0	+-	0.3
fs10	8.734	0.001764	0.002866	0.15	0.2	9.81	10.2	1.50E-14	90.30	0.00	0.00	0.02	277.7	10	38.5	+-	0.4
fs11	9.571	0.000593	0.000956	0.2	0.27	50	98.86	5.10E-15	97.00	0.00	0.00	0.02	827	2.9	45.3	+-	1.2
fs12	14.379	0.000191	0.000978	0.09	0.19	50	31.57	2.40E-14	98.00	0.00	0.00	0.01	2564	9.1	68.2	+-	0.4
fs16	23.37	0.002975	0.003194	0.14	0.29	19.23	12.96	3.00E-14	96.00	0.00	0.00	0.03	164.7	7.1	107.4	+-	0.7
fs21	72.18	0.001798	0.004546	0.1	0.09	31.09	15.88	5.50E-14	98.10	0.00	0.00	0.01	272.5	4.2	319.5	+-	1.1
fs14	85.2	0.000228	0.001840	0.11	0.08	50	19.59	1.20E-13	99.40	0.00	0.00	0.00	2149	7.6	375.7	+-	1.0
CP96-6A		Wh. Mica		J =	0.001338	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5154.IHD		Total gas age =		268.3	+-	1.3
fs32	15.93	0.027680	0.005395	0.16	0.36	24.19	12.99	4.20E-15	90.00	0.00	0.00	0.14	17.7	1.3	34.3	+-	0.5

Table DR7

fs28	24.04	0.007003	0.002936	0.06	0.26	34.22	11.24	1.70E-14	96.40	0.00	0.00	0.07	69.97	3.4	55.1	+-	0.3
fs7	36.89	0.037370	0.010592	0.09	0.19	15.98	6.92	1.60E-14	91.50	0.00	0.00	0.10	13.11	2.1	79.7	+-	0.5
fs27	35.38	0.011017	0.003044	0.1	0.13	35.99	11.54	2.60E-14	97.50	0.00	0.00	0.10	44.48	3.4	81.4	+-	0.3
fs20	44.28	0.004624	0.003326	0.08	0.17	46.03	5.21	5.80E-14	97.80	0.00	0.00	0.04	106	6.1	101.6	+-	0.2
fs16	99.46	0.020020	0.002254	0.1	0.13	16.4	9.3	2.60E-13	99.30	0.00	0.00	0.24	24.48	11.8	224.0	+-	0.4
fs33	107.01	0.018480	0.005103	0.09	0.31	24.58	13.54	4.90E-14	98.60	0.00	0.00	0.10	26.51	2.1	238.2	+-	0.8
fs21	113.81	0.014575	0.000833	0.07	0.21	18.08	28.82	2.00E-13	99.80	0.00	0.00	0.48	33.62	8.1	255.2	+-	0.6
fs5	114.70	0.017375	0.003275	0.13	0.21	18.12	7.11	9.90E-14	99.20	0.00	0.00	0.14	28.2	3.9	255.5	+-	0.6
fs29	117.97	0.020620	0.007996	0.06	0.21	15.99	4.7	7.00E-14	98.00	0.00	0.00	0.07	23.76	2.7	259.5	+-	0.6
fs8	121.52	0.014215	0.008689	0.1	0.2	72.33	11.74	3.30E-14	97.90	0.00	0.00	0.04	34.47	1.2	266.4	+-	0.8
fs6	123.68	0.023720	0.012999	0.08	0.18	23.05	3.28	6.50E-14	96.90	0.00	0.00	0.05	20.66	2.4	268.3	+-	0.6
fs25	123.28	0.012824	0.005971	0.04	0.13	19.37	5.37	2.00E-13	98.60	0.00	0.00	0.06	38.21	7.3	271.8	+-	0.4
fs9	132.02	0.033100	0.006067	0.14	0.29	7.54	5.07	1.40E-13	98.60	0.00	0.00	0.15	14.8	4.8	289.8	+-	0.9
fs3	133.81	0.021020	0.008498	0.13	0.36	44.2	8.95	4.20E-14	98.10	0.00	0.00	0.07	23.32	1.4	292.0	+-	1.1
fs19	147.15	0.019551	0.003744	0.06	0.21	23.33	10.39	2.10E-13	99.20	0.00	0.00	0.14	25.06	6.4	322.0	+-	0.7
fs31	150.36	0.025220	0.011077	0.05	0.12	10.61	3.17	1.00E-13	97.80	0.00	0.00	0.06	19.43	3.2	324.1	+-	0.5
fs14	152.90	0.030300	0.006060	0.08	0.28	19.67	7.32	9.30E-14	98.80	0.00	0.00	0.14	16.17	2.8	332.2	+-	0.9
fs11	154.74	0.013129	0.011236	0.1	0.27	38.55	3.54	1.10E-13	97.90	0.00	0.00	0.03	37.32	3.4	332.8	+-	0.9
fs35	154.39	0.061110	0.005048	0.05	0.17	6.94	8.84	8.30E-14	99.00	0.00	0.00	0.33	8.02	2.5	335.8	+-	0.6
fs30	154.98	0.028940	0.002999	0.08	0.21	8.53	9.65	1.30E-13	99.40	0.00	0.00	0.26	16.93	3.8	338.2	+-	0.7
fs15	160.20	0.022760	0.009652	0.07	0.19	43.64	6.17	6.50E-14	98.20	0.00	0.00	0.06	21.52	1.9	344.7	+-	0.7
fs1	167.84	0.033710	0.010006	0.1	0.21	34.46	10.34	4.20E-14	98.20	0.00	0.00	0.09	14.53	1.2	359.6	+-	1.0
fs2	181.49	0.025540	0.005984	0.22	0.44	23.2	9.34	8.80E-14	99.00	0.00	0.00	0.12	19.19	2.2	388.8	+-	1.7
fs13	182.60	0.014049	0.004265	0.11	0.23	31.28	8.41	1.30E-13	99.30	0.00	0.00	0.09	34.88	3.2	391.9	+-	0.9
fs10	185.61	0.030020	0.004568	0.07	0.23	13.14	8.17	1.60E-13	99.30	0.00	0.00	0.18	16.32	3.9	397.6	+-	0.9
fs17	205.90	0.121280	0.013447	0.08	0.36	19.86	12.7	2.90E-14	98.10	0.00	0.01	0.25	4.04	0.6	431.6	+-	1.7
fs26	215.30	0.011711	0.002627	0.14	0.18	20	15.23	1.40E-13	99.60	0.00	0.00	0.12	41.84	2.9	455.2	+-	0.9
CP96-5.5A		Wh. Mica		J =	0.002735	+-		8.2E-06	(1 s.d.)			Exp. No.:	yn1l0029.IHD		Total gas age =	65.7	+-	0.2
fs26	4.114	0.005720	0.003133	0.28	0.24	18.33	19.48	2.5E-15	77.50	0.01	0.00	0.05	85.66	2.2	15.7	+-	0.8
fs33	3.658	0.003175	0.001501	0.11	0.2	25.5	24.43	4.6E-15	87.90	0.01	0.00	0.06	154.3	3.9	15.8	+-	0.5
fs27	3.713	0.003379	0.001531	0.09	0.14	9.53	11.64	9E-15	87.80	0.01	0.00	0.06	145	7.5	16.0	+-	0.2
fs16	4.611	0.001840	0.001452	0.15	0.1	30.99	25.55	5.3E-15	90.70	0.01	0.00	0.03	266.3	3.5	20.5	+-	0.5
fs25	4.306	0.002899	0.000065	0.27	0.17	41.85	105.33	3.2E-15	99.60	0.01	0.00	1.21	169	2.1	21.0	+-	0.1
fs32	5.096	0.007240	0.002688	0.15	0.2	12.36	16	4.3E-15	84.40	0.01	0.00	0.07	67.68	2.7	21.1	+-	0.6
fs5	5.751	0.000631	0.002530	0.22	0.26	111.25	15.4	5.9E-15	87.00	0.01	0.00	0.01	776.2	3.2	24.5	+-	0.5
fs34	6.768	0.004632	0.005924	0.19	0.12	18.35	6.66	5.7E-15	74.10	0.01	0.00	0.02	105.8	3.1	24.6	+-	0.5
fs28	5.715	0.006865	0.002310	0.24	0.13	15.91	23.01	4.1E-15	88.10	0.01	0.00	0.08	71.38	2.2	24.7	+-	0.7
fs31	6.039	0.004118	0.002833	0.21	0.15	24.93	16.53	4.7E-15	86.10	0.01	0.00	0.04	119	2.5	25.5	+-	0.6
fs29	6.22	0.004122	0.003111	0.2	0.2	19.09	12.41	5.8E-15	85.20	0.01	0.00	0.04	118.9	3	26.0	+-	0.5
fs23	5.708	0.000147	0.001274	0.11	0.13	270.54	13.95	9.3E-15	93.40	0.01	0.00	0.00	3337	4.8	26.1	+-	0.2
fs12	6.555	0.000565	0.003713	0.15	0.21	50	10.9	6.2E-15	83.30	0.01	0.00	0.00	867	3.1	26.7	+-	0.5
fs35	6.732	0.007895	0.004163	0.2	0.17	8.97	8.54	7.3E-15	81.70	0.01	0.00	0.05	62.06	3.6	27.0	+-	0.5
fs10	6.37	0.000513	0.001645	0.19	0.11	50	23.31	7.4E-15	92.40	0.01	0.00	0.01	954.6	3.4	28.8	+-	0.5
fs21	6.066	0.000325	0.000588	0.19	0.26	85.54	23.69	2E-14	97.10	0.01	0.00	0.01	1507	9.2	28.8	+-	0.2
fs17	7.018	0.001398	0.003670	0.14	0.17	32.39	8.76	8.8E-15	84.50	0.01	0.00	0.01	350.6	4	29.0	+-	0.4
fs14	6.677	0.002924	0.001559	0.23	0.16	21.31	25.55	6.9E-15	93.10	0.01	0.00	0.05	167.6	3	30.4	+-	0.5
fs13	8.848	0.001507	0.001985	0.12	0.12	27.73	15.22	1.4E-14	93.40	0.00	0.00	0.02	325.2	4.7	40.3	+-	0.4
fs30	9.688	0.004272	0.003442	0.18	0.23	18.83	11.36	9.5E-15	89.50	0.00	0.00	0.03	114.7	3	42.3	+-	0.5

Table DR7

fs24	10.473	0.001564	0.001372	0.07	0.21	34.27	19.33	1.6E-14	96.10	0.00	0.00	0.03	313.2	4.5	49.0	+-	0.4
fs15	16.633	0.000423	0.001940	0.15	0.12	50	16.04	2.4E-14	96.60	0.00	0.00	0.01	1158	4.2	77.6	+-	0.5
fs19	20.04	0.003001	0.002098	0.2	0.17	18.61	13.82	2.9E-14	96.90	0.00	0.00	0.04	163.3	4.1	93.4	+-	0.5
fs20	57	0.000353	0.001973	0.37	0.49	50	11.4	1E-13	99.00	0.00	0.00	0.00	1389	5	258.9	+-	1.5
fs22	64.94	0.000477	0.000290	0.2	0.2	50	52.05	1.8E-13	99.90	0.00	0.00	0.04	1026	7.5	294.6	+-	1.0
CP96-5A		Wh. Mica		J =	0.001339	+-		6.7E-06	(1 s.d.)		Exp. No.:	yn0l5152.IHD		Total gas age =	47.2	+-	0.2
fs20	8.375	0.015406	0.003086	0.11	0.22	15.03	6.42	8.40E-15	89.10	0.00	0.00	0.14	31.81	1.8	17.9	+-	0.1
fs29	9.413	0.011031	0.006318	0.16	0.12	31.57	5.56	5.90E-15	80.20	0.00	0.00	0.05	44.42	1.3	18.1	+-	0.2
fs4	8.818	0.001505	0.004229	0.07	0.15	100	4.24	1.00E-14	85.80	0.00	0.00	0.01	325.7	2.2	18.2	+-	0.0
fs32	9.562	0.015623	0.006548	0.15	0.16	18.15	4	9.10E-15	79.80	0.00	0.00	0.07	31.36	1.9	18.3	+-	0.2
fs30	8.225	0.001344	0.001924	0.12	0.24	177.33	11.42	1.00E-14	93.10	0.00	0.00	0.02	364.5	2.2	18.4	+-	0.2
fs27	8.101	0.008071	0.001498	0.05	0.08	12.58	7.27	1.70E-14	94.50	0.00	0.00	0.15	60.71	3.6	18.4	+-	0.1
fs10	8.326	0.004439	0.002174	0.11	0.16	26.71	5.22	1.60E-14	92.30	0.00	0.00	0.06	110.4	3.4	18.5	+-	0.1
fs34	8.192	0.008491	0.001673	0.11	0.23	22.98	10.72	1.10E-14	94.00	0.00	0.00	0.14	57.71	2.2	18.5	+-	0.1
fs16	8.095	0.008627	0.001190	0.06	0.09	5.16	5.54	3.40E-14	95.70	0.00	0.00	0.20	56.8	7.1	18.6	+-	0.0
fs21	8.747	0.007711	0.003293	0.13	0.19	82.11	10.79	6.20E-15	88.90	0.00	0.00	0.06	63.54	1.3	18.7	+-	0.2
fs14	8.409	0.007142	0.002060	0.15	0.12	24.19	5.36	1.50E-14	92.80	0.00	0.00	0.09	68.61	3.1	18.7	+-	0.1
fs12	9.401	0.009809	0.005340	0.27	0.25	33.31	5.39	5.80E-15	83.20	0.00	0.00	0.05	49.95	1.2	18.8	+-	0.2
fs9	9.511	0.038400	0.004657	0.12	0.16	1.85	0.81	4.80E-14	85.60	0.00	0.00	0.23	12.76	9.5	19.6	+-	0.1
fs6	8.639	0.006222	0.001541	0.12	0.13	12.95	5.02	2.70E-14	94.70	0.00	0.00	0.11	78.75	5.3	19.7	+-	0.0
fs3	9.33	0.003962	0.002599	0.11	0.15	41.1	6.7	2.00E-14	91.80	0.00	0.00	0.04	123.7	3.8	20.6	+-	0.0
fs15	12.562	0.013080	0.004489	0.41	0.16	18.24	9.08	1.30E-14	89.40	0.00	0.00	0.08	37.46	1.9	26.9	+-	0.3
fs28	13.816	0.006107	0.002016	0.1	0.14	10.95	4.45	4.50E-14	95.70	0.00	0.00	0.08	80.24	5.4	31.7	+-	0.1
fs1	18.489	0.003322	0.005525	0.32	0.31	99.21	3.15	2.60E-14	91.20	0.00	0.00	0.02	147.5	2.5	40.3	+-	0.0
fs35	20.42	0.005898	0.002799	0.08	0.16	13.43	3.82	5.10E-14	96.00	0.00	0.00	0.06	83.07	4.2	46.7	+-	0.1
fs11	24.21	0.008052	0.002900	0.73	0.21	19.95	8.54	3.20E-14	96.50	0.00	0.00	0.08	60.85	2.2	55.5	+-	0.5
fs8	25.99	0.014796	0.005513	0.18	0.29	30.27	6.44	1.80E-14	93.70	0.00	0.00	0.07	33.12	1.2	57.9	+-	0.3
fs19	25.73	0.005747	0.000751	0.06	0.09	26.92	13.86	5.90E-14	99.10	0.00	0.00	0.21	85.26	3.7	60.6	+-	0.1
fs26	29.89	0.012390	-0.004981	0.82	0.52	164.88	-32.15	6.00E-15	104.90	0.00	0.00	-0.07	39.55	0.3	74.2	+-	1.2
fs13	33.65	0.005143	0.001951	0.1	0.12	7.71	2.62	1.50E-13	98.30	0.00	0.00	0.07	95.27	7.4	78.2	+-	0.1
fs23	40.77	0.010499	0.005072	0.1	0.12	9.43	2.28	1.00E-13	96.30	0.00	0.00	0.06	46.67	4.2	92.5	+-	0.2
fs17	43.4	0.005299	0.001293	0.11	0.18	87.24	19.34	5.90E-14	99.10	0.00	0.00	0.11	92.47	2.2	101.0	+-	0.3
fs22	44.29	0.010851	0.002277	0.09	0.16	16.58	5.86	1.00E-13	98.50	0.00	0.00	0.13	45.16	3.8	102.4	+-	0.2
fs31	44.15	0.006487	0.001489	0.05	0.13	15.1	6.61	1.10E-13	99.00	0.00	0.00	0.12	75.53	4.1	102.6	+-	0.2
fs7	46.42	0.014140	0.003483	0.09	0.12	6.66	3.44	1.10E-13	97.80	0.00	0.00	0.11	34.65	3.8	106.4	+-	0.2
fs5	51.24	0.014233	0.001913	0.06	0.2	12.9	6.55	1.00E-13	98.90	0.00	0.00	0.20	34.43	3.2	118.4	+-	0.0
CP96-4.5A		Wh Mica		J =	0.00134	+-		6.7E-06	(1 s.d.)		Exp. No.:	yn0l5265.IHD		Total gas age =	85.3	+-	0.4
fs32	7.191	0.047760	0.001638	0.49	0.7	54.25	76.98	1.80E-15	93.30	0.00	0.00	0.80	10.26	1.7	16.2	+-	0.9
fs15	7.29	0.133880	-0.000663	0.78	0.83	37.15	-456.56	1.10E-15	102.80	0.00	0.01	-5.51	3.66	1	18.0	+-	2.2
fs26	8.874	0.061050	0.002817	0.64	0.39	74.69	90.85	1.30E-15	90.70	0.00	0.00	0.59	8.03	1.1	19.3	+-	1.7
fs13	7.532	0.030290	-0.002357	0.63	0.56	85.5	-69.97	2.20E-15	109.30	0.00	0.00	-0.35	16.17	1.8	19.8	+-	1.1
fs33	9.892	0.089960	0.005125	0.37	0.39	26.48	23.54	2.30E-15	84.80	0.00	0.01	0.48	5.45	1.8	20.2	+-	0.8
fs22	14.451	0.453900	0.019816	1.27	1.64	74.71	52.29	3.60E-16	59.70	0.00	0.03	0.63	1.079	0.3	20.8	+-	6.9
fs20	9.394	0.010984	0.002323	0.24	0.23	170.28	33.23	6.30E-15	92.70	0.00	0.00	0.13	44.61	4.7	20.9	+-	0.5
fs9	9.192	0.037840	0.001626	0.3	0.28	48.61	76.18	3.30E-15	94.80	0.00	0.00	0.64	12.95	2.5	20.9	+-	0.8
fs34	11.054	0.014887	0.007244	0.22	0.27	91.94	8.17	4.90E-15	80.60	0.00	0.00	0.06	32.91	3.6	21.4	+-	0.4

Table DR7

fs28	9.77	0.025820	0.002242	0.37	0.5	100	46.78	3.90E-15	93.20	0.00	0.00	0.31	18.97	2.8	21.9	+-	0.7
fs2	15.557	0.221100	0.019061	1.1	1.58	63.22	33.6	6.30E-16	63.90	0.00	0.02	0.32	2.22	0.4	23.9	+-	4.3
fs3	11.317	0.037210	0.003184	0.77	0.61	107.01	63.46	2.20E-15	91.70	0.00	0.00	0.32	13.17	1.4	24.9	+-	1.4
fs27	13.09	0.073390	0.001730	0.46	0.7	8.11	20.02	1.40E-14	96.10	0.00	0.01	1.16	6.68	7.3	30.2	+-	0.3
fs8	12.746	0.141200	0.000405	0.7	0.77	41.12	817.56	1.80E-15	99.10	0.00	0.01	9.52	3.47	0.9	30.3	+-	2.0
fs23	13.06	0.025630	0.000130	0.15	0.18	16.57	228.32	2.20E-14	99.70	0.00	0.00	5.39	19.12	11.2	31.2	+-	0.2
fs31	14.162	0.149910	0.003434	0.7	1.13	66.62	108.35	1.20E-15	92.90	0.00	0.01	1.19	3.27	0.6	31.5	+-	2.5
fs6	13.818	0.011599	0.001431	0.25	0.19	100	34.67	1.30E-14	96.90	0.00	0.00	0.22	42.24	6.2	32.1	+-	0.3
fs25	13.978	0.077340	-0.000210	0.51	0.54	100	-1415.92	1.80E-15	100.50	0.00	0.01	-10.05	6.34	0.8	33.6	+-	2.2
fs1	15.704	0.276600	0.005203	0.22	0.34	6.89	17.87	5.80E-15	90.40	0.00	0.02	1.45	1.771	2.7	34.0	+-	0.6
fs16	16.225	0.396000	0.006490	1.96	2.6	100	261.96	3.50E-16	88.40	0.00	0.03	1.67	1.237	0.2	34.3	+-	11.2
fs21	15.577	0.134160	-0.000122	0.92	1.04	86.73	-4611.81	1.00E-15	100.30	0.00	0.01	-29.96	3.65	0.4	37.4	+-	4.9
fs12	20.15	0.220900	0.008676	0.27	0.64	21.69	35.29	2.50E-15	87.40	0.00	0.02	0.70	2.22	0.9	42.1	+-	2.0
fs7	19.795	0.014390	0.000782	0.1	0.21	62.34	66.28	1.80E-14	98.80	0.00	0.00	0.50	34.05	6.1	46.7	+-	0.4
fs29	30.12	0.058840	-0.000649	0.17	0.74	114.37	-383.1	5.20E-15	100.70	0.00	0.00	-2.47	8.33	1.1	71.9	+-	1.7
fs24	46.25	0.018989	0.001043	0.18	0.16	8.86	11.72	2.00E-13	99.30	0.00	0.00	0.50	25.8	28.1	107.8	+-	0.3
fs5	114.63	0.090540	0.005493	0.13	0.5	38.33	26.68	3.30E-14	98.60	0.00	0.01	0.45	5.41	1.9	254.4	+-	1.5
fs4	125.12	0.105370	0.004484	0.17	0.57	49.38	66.93	2.10E-14	98.90	0.00	0.01	0.64	4.65	1.1	276.9	+-	2.3
fs35	154.91	0.075200	0.007734	0.11	0.28	16.65	7.48	1.20E-13	98.50	0.00	0.01	0.27	6.52	5.2	335.7	+-	1.0
fs19	164.24	0.068690	0.002328	0.11	0.5	59.97	111.77	3.40E-14	99.60	0.00	0.00	0.81	7.13	1.4	357.5	+-	2.2
fs30	201.6	0.098740	0.001760	0.1	0.77	55.67	189.32	2.90E-14	99.70	0.00	0.01	1.53	4.96	0.9	430.4	+-	3.4
CP96-3.5A		Wh Mica		J =	0.001342	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5248.IHD		Total gas age =		31.4	+-	0.2
fs34	9.772	0.008771	0.012672	0.96	0.35	139.47	7.68	1.50E-15	61.70	0.00	0.00	0.02	55.86	2.8	14.5	+-	0.7
fs7	8.705	0.098600	0.007051	0.76	0.5	46.8	22.35	1.10E-15	76.20	0.00	0.01	0.38	4.97	1.8	16.0	+-	1.1
fs3	8.483	0.070150	0.005994	0.38	0.21	19.14	7.97	2.50E-15	79.20	0.00	0.00	0.32	6.98	4.3	16.2	+-	0.3
fs26	11.706	0.001811	0.016501	0.65	0.64	1073.53	8.18	1.10E-15	58.30	0.00	0.00	0.00	270.5	1.9	16.5	+-	0.9
fs24	11.481	0.024850	0.015234	0.16	0.19	13.92	2.1	6.50E-15	60.80	0.00	0.00	0.04	19.72	10.6	16.8	+-	0.2
fs23	11.919	0.037060	0.016583	0.76	0.33	100	12.04	9.60E-16	58.90	0.00	0.00	0.06	13.22	1.6	16.9	+-	1.4
fs8	10.209	0.070300	0.010469	0.62	0.44	34.92	15.11	1.30E-15	69.80	0.00	0.00	0.18	6.97	2	17.2	+-	1.1
fs27	10.357	0.065600	0.010788	0.24	0.21	19.99	3.32	3.70E-15	69.30	0.00	0.00	0.17	7.47	5.9	17.3	+-	0.3
fs31	9.133	0.032160	0.006166	0.35	0.24	80.58	17.54	2.60E-15	80.10	0.00	0.00	0.14	15.24	4.1	17.6	+-	0.7
fs19	9.214	0.018633	0.006237	0.43	0.44	138.27	10.89	2.30E-15	80.00	0.00	0.00	0.08	26.3	3.6	17.8	+-	0.5
fs32	9.019	0.021140	0.005568	0.4	0.21	47.93	10.58	4.00E-15	81.80	0.00	0.00	0.10	23.18	6.2	17.8	+-	0.4
fs12	13.015	0.146020	0.018630	0.56	0.71	22	11.04	1.10E-15	57.80	0.00	0.01	0.21	3.36	1.6	18.1	+-	1.4
fs16	9.891	0.134520	0.007566	1.04	0.45	53.67	29.25	8.90E-16	77.50	0.00	0.01	0.49	3.64	1.3	18.5	+-	1.5
fs33	9.434	0.061810	0.004402	0.43	0.51	35.4	26.29	2.60E-15	86.30	0.00	0.00	0.38	7.93	3.6	19.6	+-	0.8
fs28	10.309	0.026510	0.005877	0.72	0.32	114.98	27.57	1.20E-15	83.20	0.00	0.00	0.12	18.48	1.7	20.6	+-	1.1
fs17	12.513	0.092370	0.011377	0.47	0.53	32.2	11.81	1.70E-15	73.20	0.00	0.01	0.22	5.3	2.2	22.0	+-	0.9
fs4	13.567	0.064030	0.010031	0.32	0.26	14.59	9.41	3.50E-15	78.20	0.00	0.00	0.17	7.65	3.8	25.5	+-	0.6
fs22	11.246	0.010495	0.001389	0.17	0.16	19.12	6.3	2.80E-14	96.40	0.00	0.00	0.21	46.69	29.4	26.1	+-	0.1
fs29	23.52	0.005073	0.020850	0.17	0.39	712.24	7.59	5.50E-15	73.80	0.00	0.00	0.01	96.59	3.6	41.6	+-	1.1
fs30	24.02	0.012540	0.003413	0.23	0.14	209.02	37	6.50E-15	95.80	0.00	0.00	0.10	39.07	3.2	54.9	+-	0.8
fs20	53.5	0.147040	0.040940	0.33	0.76	43.32	7.35	3.60E-15	77.40	0.00	0.01	0.10	3.33	1	97.6	+-	2.2
fs1	104.01	0.361700	0.023710	0.15	0.63	16.76	14.84	6.90E-15	93.30	0.00	0.03	0.42	1.354	0.8	220.9	+-	2.5
fs2	101.45	0.118820	0.014201	0.09	0.22	6.8	5.48	2.50E-14	95.90	0.00	0.01	0.23	4.12	3	221.3	+-	0.7
CP96-2A		Wh Mica		J =	0.001344	+-	6.72E-05	(1 s.d.)		Exp. No.:	\SPECDATA\IHD\yn0l5		Total gas age =		57.1	+-	2.8

Table DR7

fs28	7.982	0.009797	0.001169	0.29	0.21	42.28	27.67	5.40E-15	95.7	0	0	0.23	50.01	4.5	18.4	+-	0.2
fs6	9.555	0.003066	0.004792	0.18	0.71	100	12.77	2.10E-15	85.2	0	0	0.02	159.8	1.6	19.6	+-	0.4
fs22	8.973	0.007499	0.001557	0.16	0.23	100.4	28.08	5.10E-15	94.9	0	0	0.13	65.34	3.8	20.5	+-	0.3
fs19	8.862	0.003031	0.001113	0.13	0.14	95.5	17.42	8.30E-15	96.3	0	0	0.07	161.6	6.1	20.6	+-	0.1
fs24	8.987	0.005194	0.001284	0.21	0.26	84.46	30.69	5.30E-15	95.8	0	0	0.11	94.34	3.9	20.8	+-	0.3
fs33	10.762	0.016042	0.003886	0.43	0.7	119.91	37.82	1.60E-15	89.3	0	0	0.11	30.54	1	23.2	+-	1.0
fs7	10.789	0.002958	0.001955	0.14	0.3	100	17.52	5.40E-15	94.6	0	0	0.04	165.7	3.4	24.6	+-	0.3
fs32	11.875	0.005435	0.003581	0.25	0.43	203	22.74	2.90E-15	91.1	0	0	0.04	90.15	1.7	26.0	+-	0.6
fs25	11.224	0.005668	0.000889	0.07	0.16	31.44	17.06	1.70E-14	97.7	0	0	0.17	86.45	9.6	26.4	+-	0.1
fs27	11.966	0.00662	0.001143	0.25	0.38	100	76.77	3.20E-15	97.2	0	0	0.16	74.02	1.7	28.0	+-	0.6
fs16	12.114	0.012655	0.001387	0.23	0.42	69.83	64.92	3.50E-15	96.6	0	0	0.25	38.72	1.9	28.2	+-	0.6
fs30	13.068	0.03378	0.003313	0.38	0.53	112.16	53.4	1.80E-15	92.5	0	0	0.28	14.5	0.9	29.1	+-	1.2
fs23	13.188	0.005148	0.00105	0.22	0.36	100	61.82	4.50E-15	97.6	0	0	0.13	95.18	2.2	31.0	+-	0.5
fs15	13.373	0.006805	0.001558	0.12	0.16	50.16	14.87	1.00E-14	96.6	0	0	0.12	72	5.1	31.0	+-	0.2
fs21	14.087	0.011776	0.001156	0.09	0.12	22.44	18.44	1.60E-14	97.6	0	0	0.28	41.61	7.4	33.0	+-	0.2
fs34	14.335	0.003185	0.001508	0.08	0.27	106.9	20.42	1.30E-14	96.9	0	0	0.06	153.9	5.9	33.4	+-	0.2
fs9	15.521	0.006587	0.003979	0.11	0.16	26.61	2.88	2.20E-14	92.4	0	0	0.05	74.38	9.6	34.5	+-	0.1
fs1	15.059	0.06928	0.00169	0.07	0.2	6.47	18.06	2.00E-14	96.7	0	0	1.12	7.07	8.5	35.0	+-	0.2
fs12	16.951	0.002411	0.002783	0.17	0.22	100	27.75	5.30E-15	95.1	0	0	0.02	203.2	2.1	38.7	+-	0.5
fs14	18.263	0.006828	0.002418	0.08	0.32	96.62	23.48	6.90E-15	96.1	0	0	0.08	71.76	2.5	42.1	+-	0.4
fs8	21.64	0.004372	0.003422	0.14	0.28	185.09	17.9	6.70E-15	95.3	0	0	0.03	112.1	2	49.3	+-	0.4
fs29	22.79	0.008726	0.001704	0.1	0.25	73.56	30.76	9.80E-15	97.8	0	0	0.14	56.15	2.8	53.3	+-	0.4
fs3	35.6	0.02954	0.03234	0.45	1.49	250.98	25.15	6.90E-16	73.2	0	0	0.02	16.59	0.2	62.1	+-	5.6
fs13	31.32	0.004174	0.001931	0.21	0.38	100	57.03	5.80E-15	98.2	0	0	0.06	117.4	1.2	73.1	+-	0.8
fs2	38.62	0.01511	0.005135	0.21	1.04	140.29	26.09	5.80E-15	96.1	0	0	0.08	32.43	1	87.8	+-	1.3
fs31	80.13	0.019701	0.003294	0.1	0.41	53.33	18.94	3.60E-14	98.8	0	0	0.16	24.87	2.9	182.4	+-	0.8
fs26	88.74	0.03391	0.002601	0.1	0.39	24.11	23.1	3.80E-14	99.1	0	0	0.36	14.45	2.7	201.6	+-	0.9
fs35	184.35	0.02895	0.005398	0.07	0.3	49.5	18.33	3.80E-14	99.1	0	0	0.15	16.93	1.3	396.2	+-	1.2
fs11	194.15	0.018971	0.001692	0.06	0.22	27.56	24.23	8.00E-14	99.7	0	0	0.31	25.83	2.6	417.3	+-	0.9
CP96-1.5A		Wh Mica		J =	0.001347	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5272.IHD		Total gas age =		103.4	+-	0.5
fs8	10.857	0.001009	0.001422	0.25	0.28	3048.45	87.59	3.70E-15	96.10	0.00	0.00	0.02	485.5	1.6	25.2	+-	0.8
fs22	11.066	0.049770	0.002114	0.34	0.71	100	82.4	2.40E-15	94.40	0.00	0.00	0.64	9.84	1	25.2	+-	1.2
fs4	11.302	0.002986	0.001109	0.72	0.84	224.69	27.55	1.80E-14	97.10	0.00	0.00	0.07	164.1	7.1	26.5	+-	0.4
fs26	11.831	0.095080	0.002521	0.31	1.01	100	148.26	1.30E-15	93.80	0.00	0.01	1.03	5.15	0.5	26.8	+-	2.5
fs28	11.197	0.025350	0.000304	0.13	0.27	85.12	287.13	5.80E-15	99.20	0.00	0.00	2.27	19.33	2.3	26.8	+-	0.6
fs17	10.951	0.005043	-0.003938	0.37	0.63	486.08	-37.1	3.50E-15	110.60	0.00	0.00	-0.03	97.16	1.3	29.2	+-	1.0
fs35	12.359	0.004576	0.000539	0.33	0.25	95.33	34.99	3.30E-14	98.70	0.00	0.00	0.23	107.1	12	29.4	+-	0.2
fs16	12.717	0.109560	0.000051	0.69	0.6	100	17336.84	1.30E-15	99.90	0.00	0.01	58.69	4.47	0.5	30.6	+-	2.4
fs10	13.259	0.029760	0.000986	0.44	0.66	93.83	138.32	4.10E-15	97.80	0.00	0.00	0.82	16.47	1.4	31.3	+-	0.9
fs13	14.415	0.098970	0.004315	0.52	0.76	73.51	84.07	1.50E-15	91.20	0.00	0.01	0.63	4.95	0.5	31.7	+-	2.4
fs34	12.676	0.077300	-0.001913	0.14	0.5	100	-158.44	2.00E-15	104.50	0.00	0.01	-1.10	6.34	0.7	31.9	+-	2.0
fs30	13.829	0.015404	0.000716	0.35	0.57	89.74	86.19	1.20E-14	98.50	0.00	0.00	0.59	31.81	3.8	32.8	+-	0.5
fs31	19.475	0.067940	0.000398	0.13	0.47	120.37	458.81	5.30E-15	99.40	0.00	0.00	4.67	7.21	1.2	46.5	+-	1.2
fs11	20.07	0.016758	0.000416	0.17	0.22	34.46	75.16	2.80E-14	99.40	0.00	0.00	1.10	29.24	6.2	47.9	+-	0.2
fs12	20.84	0.071840	-0.004418	0.55	0.72	100	-60.72	3.50E-15	106.30	0.00	0.01	-0.44	6.82	0.7	53.1	+-	1.8
fs27	25.85	0.012896	0.000076	0.26	0.35	100	934.25	2.30E-14	99.90	0.00	0.00	4.62	38	4	61.7	+-	0.5
fs21	31.87	0.003954	0.001914	0.07	0.16	94.11	8.89	9.20E-14	98.20	0.00	0.00	0.06	123.9	13.1	74.5	+-	0.2
fs6	33.34	0.089660	0.006306	0.39	0.49	100	52.37	3.90E-15	94.40	0.00	0.01	0.39	5.46	0.6	74.9	+-	2.2

Table DR7

fs19	55.45	0.022550	0.000581	0.21	0.35	11.94	25.87	1.60E-13	99.70	0.00	0.00	1.06	21.73	13.3	129.6	+-	0.5
fs9	64.82	0.027210	0.001148	0.12	0.29	12.11	14.04	1.60E-13	99.50	0.00	0.00	0.65	18.01	11.2	150.3	+-	0.5
fs2	185.91	3.140000	0.398000	2.47	17.34	52.32	17.4	4.30E-16	36.90	0.00	0.22	0.22	0.156	0	159.7	+-	93.9
fs1	78.62	0.107840	0.004108	0.53	1.12	74.46	124.8	6.60E-15	98.50	0.00	0.01	0.72	4.54	0.4	179.0	+-	3.8
fs14	77.62	0.010198	0.000108	0.23	0.3	134.57	619.43	5.40E-14	100.00	0.00	0.00	2.58	48.05	3.1	179.3	+-	0.8
fs29	78.83	0.144920	0.002025	0.18	0.86	84.73	208.86	1.10E-14	99.30	0.00	0.01	1.95	3.38	0.6	180.8	+-	3.0
fs15	85.78	0.045950	0.003291	0.32	0.55	61.41	62.46	1.90E-14	98.90	0.00	0.00	0.38	10.66	1	195.2	+-	1.7
fs25	88.96	0.010306	0.001262	0.07	0.15	121.26	28.81	1.20E-13	99.60	0.00	0.00	0.22	47.55	5.9	203.4	+-	0.4
fs3	131.17	0.022110	0.002718	0.13	0.33	132.05	33.16	7.00E-14	99.40	0.00	0.00	0.22	22.16	2.4	291.9	+-	1.1
fs20	166.2	0.047960	0.002460	0.11	0.28	18.19	21.11	1.40E-13	99.60	0.00	0.00	0.53	10.22	3.7	363.0	+-	1.0
CP96-1.2A		Wh. Mica		J =	0.00135	+-		6.8E-06	(1 s.d.)		Exp. No.:	yn0l5181.IHD		Total gas age =	118.0	+-	0.6
fs14	11.813	0.007959	0.005063	0.19	0.35	117.16	8.76	3.50E-15	87.30	0.00	0.00	0.04	61.57	3.1	25.0	+-	0.3
fs33	13.866	0.013310	0.010062	0.44	0.67	201.64	11.81	1.20E-15	78.60	0.00	0.00	0.04	36.81	1	26.3	+-	0.9
fs30	15.641	0.059170	0.015081	0.22	0.15	22.21	5.3	2.60E-15	71.50	0.00	0.00	0.11	8.28	2.1	27.1	+-	0.6
fs1	14.298	0.008488	0.008466	0.23	0.46	164.53	10.35	2.50E-15	82.50	0.00	0.00	0.03	57.73	1.9	28.5	+-	0.6
fs20	13.362	0.010963	0.002365	0.22	0.41	75.39	22.96	4.90E-15	94.80	0.00	0.00	0.13	44.69	3.5	30.6	+-	0.4
fs31	16.248	0.042860	0.009934	0.88	1.08	160.57	54.69	5.90E-16	82.00	0.00	0.00	0.12	11.43	0.4	32.1	+-	3.7
fs25	16.979	0.009407	0.011647	0.44	0.87	318.42	17.42	1.30E-15	79.70	0.00	0.00	0.02	52.09	0.9	32.7	+-	1.4
fs32	14.668	0.007090	0.003680	0.14	0.25	106.78	8.58	7.60E-15	92.60	0.00	0.00	0.05	69.11	5	32.8	+-	0.2
fs27	15.634	0.005176	0.006229	0.18	0.25	100	7.6	4.00E-15	88.20	0.00	0.00	0.02	94.67	2.6	33.3	+-	0.3
fs22	15.154	0.003003	0.003307	0.11	0.28	124.55	6.11	1.20E-14	93.60	0.00	0.00	0.02	163.2	7.5	34.2	+-	0.2
fs12	19.97	0.056140	0.017917	0.15	0.46	20.45	3.54	5.80E-15	73.50	0.00	0.00	0.09	8.73	3.5	35.4	+-	0.5
fs3	16.367	0.011709	0.004519	0.13	0.24	46.29	6.24	8.40E-15	91.80	0.00	0.00	0.07	41.85	5	36.2	+-	0.2
fs15	20.11	0.012287	0.010489	0.14	0.17	54.29	2.82	7.70E-15	84.60	0.00	0.00	0.03	39.88	4.1	41.0	+-	0.2
fs28	31.3	0.075510	0.022030	0.11	0.36	11.17	2.46	1.00E-14	79.20	0.00	0.01	0.09	6.49	3.7	59.4	+-	0.5
fs21	34.05	0.033850	0.010320	0.08	0.21	6.97	1.27	4.00E-14	91.10	0.00	0.00	0.09	14.48	11.6	74.0	+-	0.2
fs4	32.93	0.015719	0.005116	0.14	0.18	65.04	10.47	8.80E-15	95.40	0.00	0.00	0.08	31.17	2.5	74.9	+-	0.4
fs8	35.37	0.023410	0.007893	0.16	0.23	57.14	10.64	9.10E-15	93.40	0.00	0.00	0.08	20.93	2.5	78.7	+-	0.6
fs7	49.47	0.007539	0.005173	0.15	0.15	65.69	7.28	2.90E-14	96.90	0.00	0.00	0.04	64.99	5.4	113.2	+-	0.4
fs19	65.7	0.019646	0.004859	0.07	0.3	28.06	9.23	3.40E-14	97.80	0.00	0.00	0.11	24.94	4.7	150.1	+-	0.5
fs34	70.16	0.060370	0.008210	0.1	0.24	18.38	6.12	2.90E-14	96.50	0.00	0.00	0.20	8.12	3.9	157.9	+-	0.5
fs24	101.79	0.413800	0.106350	0.11	0.3	7.27	1.24	1.60E-14	69.20	0.00	0.03	0.11	1.184	2	163.8	+-	1.1
fs6	74.84	0.031390	0.007013	0.33	0.37	31.28	6.93	3.40E-14	97.20	0.00	0.00	0.12	15.61	4.2	169.0	+-	0.9
fs26	81.33	0.010914	0.006014	0.06	0.33	121.01	14.07	1.80E-14	97.80	0.00	0.00	0.05	44.9	2	184.0	+-	0.8
fs23	126.15	0.517900	0.120640	0.09	0.59	8.46	1.62	9.00E-15	71.80	0.00	0.04	0.12	0.946	0.9	208.1	+-	2.1
fs5	103.04	0.007773	0.005719	0.11	0.24	147.68	12.54	3.10E-14	98.40	0.00	0.00	0.04	63.04	2.7	231.3	+-	0.7
fs29	141.45	0.017558	0.004342	0.05	0.19	35.23	8.13	6.40E-14	99.10	0.00	0.00	0.11	27.91	4.1	312.7	+-	0.6
fs10	157.79	0.135210	0.028750	0.12	0.29	7.19	2.18	7.40E-14	94.60	0.00	0.01	0.13	3.62	4.5	331.3	+-	1.1
fs2	166.33	0.021450	0.004616	0.12	0.29	31.99	6.36	9.00E-14	99.20	0.00	0.00	0.13	22.84	4.9	362.7	+-	1.1
CP96-1.0A		Wh. Mica		J =	0.001355	+-		6.8E-06	(1 s.d.)		Exp. No.:	yn0l5180.IHD		Total gas age =	96.2	+-	0.5
fs23	14.755	0.099790	0.017712	0.27	0.26	7.19	2.87	4.80E-15	64.60	0.00	0.01	0.15	4.91	3.5	23.1	+-	0.4
fs19	11.379	0.003167	0.002935	0.13	0.26	100	8.13	9.50E-15	92.40	0.00	0.00	0.03	154.7	6.4	25.5	+-	0.2
fs3	13.59	0.019653	0.010005	0.45	0.61	100	13.1	1.50E-15	78.30	0.00	0.00	0.05	24.93	1	25.8	+-	0.9
fs6	12.302	0.010640	0.005066	0.17	0.41	91.11	13.54	4.10E-15	87.80	0.00	0.00	0.06	46.05	2.6	26.2	+-	0.5
fs7	12.806	0.002400	0.005830	0.19	0.32	476.64	9.08	4.10E-15	86.50	0.00	0.00	0.01	204.2	2.6	26.9	+-	0.4
fs35	12.963	0.006556	0.003891	0.27	0.33	100	9.72	5.30E-15	91.10	0.00	0.00	0.05	74.74	3.1	28.7	+-	0.3

Table DR7

fs30	13.142	0.004102	0.002253	0.18	0.21	100	11.08	8.90E-15	94.90	0.00	0.00	0.05	119.5	5	30.2	+-	0.2
fs22	14.063	0.006725	0.005194	0.13	0.34	100	7.64	5.40E-15	89.10	0.00	0.00	0.04	72.86	3	30.4	+-	0.3
fs29	13.933	0.013707	0.004667	0.31	0.21	72.08	11.28	5.40E-15	90.10	0.00	0.00	0.08	35.75	3	30.4	+-	0.4
fs20	18.072	0.032050	0.015465	0.4	0.82	110.83	11.11	1.40E-15	74.70	0.00	0.00	0.06	15.29	0.7	32.7	+-	1.2
fs31	14.399	0.000877	0.002742	0.17	0.24	568.99	8.08	9.90E-15	94.40	0.00	0.00	0.01	558.7	5.1	32.9	+-	0.2
fs4	15.061	0.008995	0.002814	0.09	0.19	49.17	9.51	9.70E-15	94.50	0.00	0.00	0.09	54.47	4.8	34.5	+-	0.2
fs1	16.568	0.011371	0.003599	0.16	0.27	36.58	8.26	1.30E-14	93.60	0.00	0.00	0.09	43.09	5.8	37.5	+-	0.2
fs28	20.28	0.015979	0.014833	0.24	0.33	92.37	4.86	4.10E-15	78.40	0.00	0.00	0.03	30.66	1.8	38.4	+-	0.5
fs24	19.772	0.005988	0.005664	0.15	0.22	123.79	7.5	8.00E-15	91.50	0.00	0.00	0.03	81.83	3.1	43.7	+-	0.3
fs9	20.48	0.010685	0.006143	0.13	0.32	100	12.69	5.00E-15	91.10	0.00	0.00	0.05	45.86	1.9	45.1	+-	0.6
fs25	20.53	0.006797	0.005298	0.18	0.26	100	6.07	8.10E-15	92.40	0.00	0.00	0.04	72.09	3	45.8	+-	0.3
fs26	34.21	0.005747	0.005824	0.11	0.28	124.51	4.98	1.80E-14	95.00	0.00	0.00	0.03	85.25	3.8	77.7	+-	0.3
fs2	36.22	0.024840	0.009127	0.3	0.59	100	15.31	3.90E-15	92.60	0.00	0.00	0.07	19.72	0.8	80.2	+-	1.1
fs8	55.48	0.008269	0.058920	0.14	0.19	96.61	1.14	1.60E-14	68.60	0.00	0.00	0.00	59.25	2.9	90.7	+-	0.6
fs10	42.99	0.013685	0.004719	0.09	0.14	19.79	4.9	4.90E-14	96.80	0.00	0.00	0.08	35.8	8.3	98.9	+-	0.2
fs32	44.3	0.001138	0.003968	0.11	0.44	754.83	10.73	1.90E-14	97.40	0.00	0.00	0.01	430.5	3.1	102.5	+-	0.5
fs11	89.44	0.028050	0.115950	0.05	0.22	18.27	0.35	3.60E-14	61.70	0.00	0.00	0.01	17.47	4.6	130.1	+-	0.6
fs16	66.8	0.002645	0.002843	0.07	0.19	106.79	8.59	7.10E-14	98.70	0.00	0.00	0.03	185.3	7.6	154.4	+-	0.4
fs21	76.77	0.006069	0.006117	0.15	0.29	100	3.85	3.60E-14	97.60	0.00	0.00	0.03	80.74	3.4	174.5	+-	0.6
fs13	160.6	0.012619	0.006883	0.02	0.24	44.63	5.97	9.30E-14	98.70	0.00	0.00	0.05	38.83	4.1	351.1	+-	0.8
fs14	164.36	0.019841	0.008833	0.07	0.33	56.04	10.65	4.90E-14	98.40	0.00	0.00	0.06	24.7	2.1	357.5	+-	1.2
fs12	201.2	0.026360	0.014350	0.08	0.32	29.92	3.76	7.70E-14	97.90	0.00	0.00	0.05	18.59	2.8	426.8	+-	1.3

(a) Individual single crystals fusions labeled by 2 mm well in 35 hole Cu disk (fs#).

(b) Corrected for 37Ar and 39Ar decay, half-lives 35.1 days and 259 years, respectively.

(c) Radiogenic (R), calcium-derived (Ca), and potassium-derived (K) argon, respectively (percent).

(d) Ages calculated relative to FC-1 Sanidine at 28.02 Ma with lambda e = 0.581E-10/yr and lambda b = 4.692E-10/yr.

Table DR8

Step (a)	40Ar/39Ar (b)	37Ar/39Ar (b)	36Ar/39Ar (b)	40Ar s.d. (%)	39Ar s.d. (%)	37Ar s.d. (%)	36Ar s.d. (%)	40ArR (mol)	40ArR (c)	40ArK (c)	39ArCa (c)	36ArCa (c)	K/Ca (%)	39Ar (%)	Apparent A (Ma)	+- (d)	1 s.d. (Ma)
CP96-6A		Wh. Mica		J =	0.001338	+-		6.7E-06	(1 s.d.)		Exp. No.:	yn0l5163.IHD		Total gas age =		265.4	+-	1.3
(e) 3.3	102.00	0.203100	0.049100	0.1	0.51	11.93	3.25	1.40E-14	85.80	0.00	0.01	0.11	2.4	5.3	199.8	+-	1.5
(e) 3.4	106.72	0.045520	0.002821	0.12	0.88	29.93	60.7	1.60E-14	99.20	0.00	0.00	0.44	10.8	4.9	239.0	+-	2.2
3.5	122.05	0.018916	0.002623	0.05	0.29	13.32	14.64	9.70E-14	99.40	0.00	0.00	0.20	25.9	26.5	271.3	+-	0.8
3.6	115.21	0.016856	0.002619	0.13	0.22	20.89	10.06	1.10E-13	99.30	0.00	0.00	0.18	29.1	33.2	257.0	+-	0.6
3.7	132.05	0.006964	0.002812	0.03	0.34	193.68	33.39	4.60E-14	99.40	0.00	0.00	0.07	70.4	11.6	291.8	+-	1.1
3.8	122.05	0.011360	0.003217	0.07	0.6	137.82	50.71	1.80E-14	99.20	0.00	0.00	0.10	43.1	5.0	270.9	+-	1.8
3.9	130.44	0.073740	0.013512	0.08	0.96	48.61	20.59	1.10E-14	96.90	0.00	0.01	0.15	6.6	2.9	282.0	+-	3.0
12.0	129.11	0.019477	0.004845	0.07	0.18	58.26	13.58	4.10E-14	98.90	0.00	0.00	0.11	25.2	10.5	284.5	+-	0.6
CP96-6A				J =	0.001338	+-		6.7E-06	(1 s.d.)		Exp. No.:	yn0l5164.IHD		Total gas age =		178.2	+-	1.1
(e) 3.3	91.01	0.002230	0.013785	0.18	0.2	472.58	5.56	2.80E-14	95.50	0.00	0.00	0.00	219.8	53.6	198.5	+-	0.7
3.4	68.81	0.043720	0.007632	0.1	1.25	100	48.04	3.90E-15	96.70	0.00	0.00	0.16	11.2	9.8	153.9	+-	2.9
3.5	69.89	0.045840	0.011776	0.35	1.35	100	34.6	3.70E-15	95.00	0.00	0.00	0.11	10.7	9.3	153.6	+-	3.3
3.7	67.73	0.036020	0.004376	0.29	0.86	125.13	88.29	4.30E-15	98.10	0.00	0.00	0.22	13.6	11.0	153.7	+-	2.7
4.0	61.69	0.026910	0.007913	0.29	0.98	174.71	65.51	3.00E-15	96.20	0.00	0.00	0.09	18.2	8.6	137.9	+-	3.5
12.0	82.64	0.021050	0.021710	0.56	1.31	187.9	22.35	3.50E-15	92.20	0.00	0.00	0.03	23.3	7.8	175.2	+-	3.9
CP96-6A		Wh. Mica		J =	0.001338	+-		6.7E-06	(1 s.d.)		Exp. No.:	yn0l5165.IHD		Total gas age =		146.3	+-	0.9
(e) 3.3	49.47	0.430100	0.093350	0.41	1.57	28.39	9.01	8.30E-16	44.30	0.00	0.03	0.13	1.1	1.4	52.2	+-	5.9
(e) 3.4	86.71	0.022310	0.009840	0.19	0.49	33.82	8.11	2.60E-14	96.60	0.00	0.00	0.06	22.0	11.7	191.7	+-	1.1
3.5	61.43	0.007764	0.001656	0.06	0.32	46.62	22.41	4.30E-14	99.20	0.00	0.00	0.13	63.1	26.7	141.4	+-	0.5
3.6	61.37	0.007745	0.001652	0.04	0.24	46.62	22.41	4.30E-14	99.20	0.00	0.00	0.13	63.3	26.8	141.3	+-	0.4
3.7	67.65	0.002039	0.015162	0.21	1.07	218.37	30.87	2.50E-14	93.40	0.00	0.00	0.00	240.3	15.2	146.4	+-	3.3
3.9	60.89	0.007782	0.003568	0.1	0.31	100	28.11	2.00E-14	98.30	0.00	0.00	0.06	63.0	12.5	138.9	+-	0.8
12	60.22	0.008399	0.003823	0.12	0.48	100	43.25	9.00E-15	98.10	0.00	0.00	0.06	58.3	5.8	137.3	+-	1.2
CP96-5A		Wh Mica		J =	0.001339	+-		6.7E-06	(1 s.d.)		Exp. No.:	yn0l5160.IHD		Total gas age =		19.1	+-	0.2
3.3	37.03	0.532300	0.095390	0.25	0.56	4.1	1.93	8.80E-16	24.00	0.00	0.04	0.15	0.9	6.4	21.3	+-	1.4
3.4	8.37	0.022060	0.002120	0.2	0.36	20.73	27.29	3.50E-15	92.50	0.00	0.00	0.28	22.2	29.2	18.6	+-	0.4
3.6	8.081	0.005725	0.000214	0.15	0.26	78.5	153.4	4.50E-15	99.20	0.00	0.00	0.73	85.6	35.7	19.3	+-	0.2
3.8	8.08	0.020360	0.000946	0.44	0.56	58.62	93.63	1.50E-15	96.60	0.00	0.00	0.59	24.1	12.3	18.7	+-	0.6
12.0	8.135	0.022490	0.000603	0.64	0.41	36.79	145.66	2.00E-15	97.80	0.00	0.00	1.02	21.8	16.5	19.1	+-	0.6
CP96-5A		Wh. Mica		J =	0.001339	+-		6.7E-06	(1 s.d.)		Exp. No.:	yn0l5161.IHD		Total gas age =		106.9	+-	0.5
3.3	57.51	0.121910	0.044170	0.08	0.37	8.14	1.54	1.30E-14	77.30	0.00	0.01	0.08	4.0	4.9	104.4	+-	0.7
3.4	51.85	0.074230	0.023300	0.43	0.8	48.48	12.88	4.60E-15	86.70	0.00	0.01	0.09	6.6	1.7	105.5	+-	2.5
3.6	47.23	0.082840	0.004657	0.06	0.26	8.85	15.02	1.80E-14	97.10	0.00	0.01	0.49	5.9	6.4	107.5	+-	0.5
3.8	46.68	0.023470	0.002911	0.07	0.11	6.57	6.68	7.70E-14	98.20	0.00	0.00	0.22	20.9	27.4	107.4	+-	0.2
3.9	45.96	0.008773	0.001565	0.07	0.13	14.49	6.08	9.80E-14	99.00	0.00	0.00	0.15	55.9	35.0	106.7	+-	0.2
4.2	45.98	0.003909	0.002999	0.09	0.41	377.24	30.29	1.10E-14	98.10	0.00	0.00	0.04	125.4	4.1	105.8	+-	0.7
12.0	46.43	0.014297	0.002368	0.07	0.13	22.79	8.55	5.80E-14	98.50	0.00	0.00	0.16	34.3	20.6	107.2	+-	0.2

Table DR8

CP96-5A	Wh. Mica	J =	0.001339	+-	6.7E-06	(1 s.d.)	Exp. No.:	yn0l5162.IHD	Total gas age =	106.0	+-	0.6				
3.3	63.34	0.189780	0.059720	0.13	0.53	9.09	2.74	7.40E-15	72.20	0.00	0.01	0.09	2.6	6.3	107.2	+- 1.3
3.4	46.76	0.013841	0.005005	0.12	0.27	40.7	8.56	2.40E-14	96.80	0.00	0.00	0.08	35.4	20.4	106.2	+- 0.4
3.5	45.78	0.007927	0.001469	0.04	0.3	49.39	26.5	3.30E-14	99.10	0.00	0.00	0.15	61.8	28.6	106.3	+- 0.4
3.6	45.77	0.012096	0.002697	0.09	0.4	73.93	25.61	1.40E-14	98.30	0.00	0.00	0.12	40.5	12.0	105.5	+- 0.6
3.8	45.93	0.029430	0.003586	0.18	0.44	35.67	30.35	1.20E-14	97.70	0.00	0.00	0.22	16.7	10.4	105.3	+- 0.8
12.0	45.50	0.016620	0.001570	0.07	0.18	26.83	30.48	2.60E-14	99.00	0.00	0.00	0.29	29.5	22.3	105.6	+- 0.4
CP96-4.5A	Wh Mica	J =	0.00134	+-	6.7E-06	(1 s.d.)	Exp. No.:	yn0l5267.IHD	Total gas age =	17.2	+-	0.3				
3.3	30.48	1.351300	0.074880	0.46	0.35	3.4	2.33	2.20E-15	27.80	0.00	0.09	0.49	0.4	9.4	20.4	+- 1.3
3.4	18.731	0.044120	0.037590	0.29	0.54	100	5.73	1.70E-15	40.70	0.00	0.00	0.03	11.1	8.4	18.3	+- 1.5
3.6	8.893	0.015355	0.005811	0.17	0.37	38.55	4.65	9.00E-15	80.70	0.00	0.00	0.07	31.9	45.9	17.3	+- 0.2
3.8	7.559	0.055250	0.002524	0.34	0.41	32.96	18.17	4.90E-15	90.20	0.00	0.00	0.60	8.9	26.3	16.4	+- 0.3
4.0	8.106	0.358800	0.006966	0.94	0.86	30.56	40.47	7.10E-16	75.00	0.00	0.03	1.41	1.4	4.3	14.6	+- 1.9
12.0	7.635	0.112460	0.004186	0.67	0.68	46.68	55.79	1.00E-15	83.90	0.00	0.01	0.73	4.4	5.7	15.4	+- 1.6
CP96-4.5A	Wh Mica	J =	0.00134	+-	6.7E-06	(1 s.d.)	Exp. No.:	yn0l5268.IHD	Total gas age =	17.4	+-	0.4				
3.3	16.036	0.348100	0.026350	0.47	0.34	7.13	5.22	2.50E-15	51.60	0.00	0.02	0.36	1.4	18.8	19.9	+- 0.9
3.4	9.856	0.029680	0.009804	0.49	0.61	149.31	18.51	1.40E-15	70.60	0.00	0.00	0.08	16.5	12.8	16.7	+- 1.2
3.6	8.071	0.037070	0.003329	0.19	0.2	37.98	12.69	6.00E-15	87.80	0.00	0.00	0.30	13.2	52.9	17.1	+- 0.3
3.8	7.886	0.099930	0.003158	1.03	1.04	98.62	115.68	7.10E-16	88.30	0.00	0.01	0.86	4.9	6.3	16.8	+- 2.4
12.0	7.666	0.107630	0.004041	0.71	0.44	59.81	67.13	9.70E-16	84.50	0.00	0.01	0.73	4.6	9.3	15.6	+- 1.8
CP96-4.5A	Wh Mica	J =	0.00134	+-	6.7E-06	(1 s.d.)	Exp. No.:	yn0l5269.IHD	Total gas age =	17.7	+-	0.3				
3.3	14.362	0.138570	0.022480	0.91	0.64	15.31	5.19	2.70E-15	53.80	0.00	0.01	0.17	3.5	16.7	18.6	+- 0.9
3.4	7.819	0.016590	0.000705	0.31	0.26	89.97	88.16	5.70E-15	97.40	0.00	0.00	0.64	29.5	36.1	18.3	+- 0.4
3.6	7.739	0.023530	0.001618	0.35	0.47	140.63	62.33	3.40E-15	93.80	0.00	0.00	0.40	20.8	22.6	17.5	+- 0.7
3.8	8.989	0.042300	0.007495	0.56	0.58	80.2	22.17	1.50E-15	75.40	0.00	0.00	0.15	11.6	10.7	16.3	+- 1.1
12.0	7.939	0.028440	0.004042	0.64	0.63	105.35	30.42	1.90E-15	85.00	0.00	0.00	0.19	17.2	13.9	16.2	+- 0.8
CP96-4.5A	Wh Mica	J =	0.00134	+-	6.7E-06	(1 s.d.)	Exp. No.:	yn0l5270.IHD	Total gas age =	17.5	+-	0.4				
3.3	9.243	0.033600	0.006578	0.44	0.35	30.48	8.53	6.10E-15	79.00	0.00	0.00	0.14	14.6	53.4	17.6	+- 0.4
3.4	7.488	0.038620	0.001368	0.41	0.45	100	99.38	2.00E-15	94.60	0.00	0.00	0.77	12.7	18.1	17.1	+- 0.9
3.6	7.509	0.070200	0.003017	0.86	0.51	50	84.49	1.00E-15	88.20	0.00	0.00	0.64	7.0	10.0	15.9	+- 1.7
3.8	7.402	0.346000	0.001541	0.76	1.34	23.14	189.59	9.70E-16	94.20	0.00	0.02	6.13	1.4	8.9	16.8	+- 1.9
12.0	9.149	0.080180	0.002039	0.58	0.59	68.32	132.29	1.30E-15	93.50	0.00	0.01	1.07	6.1	9.6	20.6	+- 1.8
CP96-3.5A	Wh Mica	J =	0.001342	+-	6.7E-06	(1 s.d.)	Exp. No.:	yn0l5249.IHD	Total gas age =	17.0	+-	0.4				
3.3	50.59	0.247300	0.150780	1.18	1.52	97.83	9.37	1.10E-16	12.00	0.00	0.02	0.04	2.0	1.3	14.6	+- 9.9
3.5	13.365	0.023410	0.020300	0.19	0.21	58.01	2.96	4.10E-15	55.10	0.00	0.00	0.03	20.9	41.3	17.7	+- 0.4
3.7	8.128	0.025250	0.003851	0.4	0.24	62.43	23.9	2.90E-15	86.00	0.00	0.00	0.18	19.4	31.4	16.8	+- 0.6
3.9	8.742	0.079140	0.006913	0.71	0.64	43.77	26.42	1.20E-15	76.70	0.00	0.01	0.31	6.2	13.5	16.2	+- 1.2
12.0	7.048	0.071910	0.000783	0.99	0.63	75.34	262.58	1.10E-15	96.80	0.00	0.01	2.51	6.8	12.4	16.4	+- 1.4
CP96-3.5A	Wh Mica	J =	0.001342	+-	6.7E-06	(1 s.d.)	Exp. No.:	yn0l5250.IHD	Total gas age =	51.1	+-	0.5				

Table DR8

3.3	76.68	0.182950	0.182520	0.83	2.68	162.81	5.96	3.80E-16	29.70	0.00	0.01	0.03	2.7	1.7	54.3	+- 9.3
3.4	22.36	0.008162	0.003855	0.11	0.23	100	12.74	1.40E-14	94.90	0.00	0.00	0.06	60.0	67.1	50.7	+- 0.4
3.6	17.669	0.045160	0.031160	9.6	3.96	3028.22	104.81	5.20E-17	47.90	0.00	0.00	0.04	10.9	0.6	20.4	+- 22.3
12.0	25.21	0.048480	0.010624	0.32	0.43	53.74	11.92	6.80E-15	87.60	0.00	0.00	0.12	10.1	30.6	52.7	+- 0.9
CP96-3.5A		Wh Mica		J =	0.001342	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5251.IHD		Total gas age =		32.4	+- 0.8
3.3	36.13	0.162240	0.071040	0.93	1.28	66.56	10.14	5.30E-16	41.90	0.00	0.01	0.06	3.0	4.9	36.3	+- 5.0
3.4	14.198	0.026700	0.002645	0.23	0.23	44.27	32.51	5.00E-15	94.50	0.00	0.00	0.28	18.4	52.4	32.2	+- 0.6
3.5	13.943	0.166720	0.000984	1.23	0.52	45.08	587.2	8.10E-16	98.00	0.00	0.01	4.63	2.9	8.3	32.8	+- 3.7
3.6	13.777	0.061140	0.002577	0.9	0.37	81.94	150.77	1.10E-15	94.50	0.00	0.00	0.65	8.0	11.7	31.3	+- 2.6
3.7	14.182	0.002476	0.000584	0.86	0.34	1924.26	643.37	1.30E-15	98.80	0.00	0.00	0.12	197.9	13.4	33.6	+- 2.5
3.9	13.632	0.475200	0.006929	3.67	1.89	52.43	249.71	2.40E-16	85.30	0.00	0.03	1.87	1.0	2.9	27.9	+- 11.4
12.0	26.32	0.208600	0.044150	0.85	0.84	46.96	17.5	6.30E-16	50.50	0.00	0.01	0.13	2.4	6.6	31.9	+- 5.2
CP96-3.5A		Wh Mica		J =	0.001342	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5252.IHD		Total gas age =		17.0	+- 0.6
3.3	30.75	0.328000	0.075630	0.76	1.21	54.78	10.96	3.80E-16	27.40	0.00	0.02	0.12	1.5	5.1	20.3	+- 5.7
3.4	8.265	0.005797	0.002781	0.38	0.38	198.09	41.89	2.50E-15	90.10	0.00	0.00	0.06	84.5	38.9	17.9	+- 0.8
3.6	7.715	0.046570	0.001868	0.49	0.46	28.42	64.18	2.00E-15	92.90	0.00	0.00	0.68	10.5	32.2	17.3	+- 0.8
3.8	7.974	0.070990	0.006639	1.18	0.36	57.46	49.41	6.60E-16	75.50	0.00	0.00	0.29	6.9	12.5	14.5	+- 2.2
12.0	8.044	0.115490	0.007440	1.57	0.26	72.26	46.19	5.80E-16	72.80	0.00	0.01	0.42	4.2	11.3	14.1	+- 2.3
CP96-3.5A				J =	0.001342	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5254.IHD		Total gas age =		19.0	+- 1.3
3.3	10.516	0.008298	0.009027	0.63	0.66	470.09	14.1	1.30E-15	74.60	0.00	0.00	0.03	59.1	35.0	18.9	+- 0.9
3.4	37.6	0.246100	0.098030	5.18	1.67	100	18.89	2.00E-16	23.00	0.00	0.02	0.07	2.0	4.9	20.8	+- 13.4
3.6	-0.117306	0.993100	-0.043919	-1442.1	2.48	39.58	-40.19	2.40E-16	-11031.50	-0.16	0.07	-0.62	0.5	4.0	31.1	+- 12.5
3.8	8.294	0.024130	0.002775	1.5	0.45	104.4	61.83	1.70E-15	90.10	0.00	0.00	0.24	20.3	49.8	18.0	+- 1.2
4	13.965	2.526000	0.056660	17.71	4.67	26.61	62.24	-2.30E-17	-18.40	0.00	0.18	1.22	0.2	1.9	-6.3	+- 24.6
12	11.941	0.154240	0.001433	11.51	2.11	268.22	1164.86	2.30E-16	96.60	0.00	0.01	2.94	3.2	4.3	27.7	+- 11.3
CP96-3.5A		Wh Mica		J =	0.001342	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5255.IHD		Total gas age =		16.6	+- 0.7
3.3	9.316	0.054990	0.009183	0.29	0.27	26.29	7.42	2.70E-15	70.90	0.00	0.00	0.16	8.9	45.7	15.9	+- 0.5
3.4	7.84	0.013874	0.001151	1.17	0.48	160.66	153.67	1.40E-15	95.70	0.00	0.00	0.33	35.3	19.9	18.1	+- 1.2
3.6	7.023	0.167980	0.001215	1.52	0.51	46.62	257.87	6.90E-16	95.10	0.00	0.01	3.77	2.9	11.5	16.1	+- 2.0
4.0	14.577	0.080590	0.027390	15.51	0.4	78.21	32.09	4.30E-16	44.50	0.00	0.01	0.08	6.1	7.3	15.6	+- 8.0
12.0	6.693	0.070730	-0.001679	1.41	0.41	71.68	-120.98	1.00E-15	107.50	0.00	0.00	-1.15	6.9	15.7	17.3	+- 1.4
CP96-3.5A		Wh Mica		J =	0.001342	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5256.IHD		Total gas age =		17.1	+- 0.5
3.3	29.08	0.803200	0.082220	1.47	0.95	21.95	9.22	1.20E-16	16.70	0.00	0.06	0.27	0.6	4.2	11.7	+- 5.3
3.4	8.536	0.059810	0.001580	1.24	0.76	100	209.59	7.60E-16	94.60	0.00	0.00	1.03	8.2	15.7	19.4	+- 2.2
12.0	7.865	0.032210	0.002788	0.32	0.32	41.38	22.41	3.40E-15	89.60	0.00	0.00	0.32	15.2	80.0	17.0	+- 0.4
CP96-3.5A		Wh Mica		J =	0.001342	+-	6.7E-06	(1 s.d.)		Exp. No.:	yn0l5257.IHD		Total gas age =		35.2	+- 0.7
3.4	15.695	0.060760	0.003574	0.36	0.42	28.75	40.62	3.90E-15	93.30	0.00	0.00	0.46	8.1	53.3	35.1	+- 1.0
12.0	17.426	0.035080	0.009262	0.24	0.5	60.65	16.36	3.40E-15	84.30	0.00	0.00	0.10	14.0	46.7	35.2	+- 1.0
CP96-1.2A		Wh. Mica		J =	0.00135	+-	6.8E-06	(1 s.d.)		Exp. No.:	yn0l5182.IHD		Total gas age =		76.8	+- 0.4

Table DR8

(e) 3.2	60.33	0.405400	0.119180	0.17	0.38	5.65	2.05	3.20E-15	41.70	0.00	0.03	0.09	1.2	5.3	60.2	+- 1.8
3.3	33.42	0.024620	0.009648	0.09	0.32	31.37	5.16	1.10E-14	91.50	0.00	0.00	0.07	19.9	15.4	73.0	+- 0.4
3.4	35.93	0.020160	0.005537	0.08	0.18	20.67	7.55	2.30E-14	95.40	0.00	0.00	0.10	24.3	27.1	81.7	+- 0.3
3.6	29.85	0.016857	0.003750	0.11	0.33	37.05	6.88	1.50E-14	96.30	0.00	0.00	0.12	29.1	22.0	68.7	+- 0.3
3.8	33.34	0.012693	0.002758	0.09	0.33	66.63	24.69	1.20E-14	97.60	0.00	0.00	0.13	38.6	14.6	77.5	+- 0.5
12	42.13	0.046970	0.016523	0.27	0.3	19.8	3.41	1.40E-14	88.40	0.00	0.00	0.08	10.4	15.5	88.5	+- 0.5
CP96-1.2A		Wh. Mica		J =	0.00135	+-	6.8E-06	(1 s.d.)		Exp. No.:	yn0l5184.IHD		Total gas age =		24.6	+- 0.7
3.3	13.843	0.020820	0.012351	0.39	0.51	84.67	5.89	1.60E-15	73.60	0.00	0.00	0.05	23.5	40.5	24.7	+- 0.5
3.4	10.977	0.012446	0.004008	0.47	0.83	100	53.39	1.20E-15	89.20	0.00	0.00	0.08	39.4	29.8	23.7	+- 1.5
3.6	11.882	0.086820	0.002379	1.14	0.91	69.82	177.94	5.20E-16	94.10	0.00	0.01	1.00	5.6	11.8	27.0	+- 2.9
12	10.878	0.029040	0.002549	0.83	0.66	142.68	101.15	7.20E-16	93.10	0.00	0.00	0.31	16.9	17.9	24.5	+- 1.8
CP96-1.2A		Wh. Mica		J =	0.00135	+-	6.8E-06	(1 s.d.)		Exp. No.:	yn0l5185.IHD		Total gas age =		25.3	+- 0.4
3.2	31.27	0.143790	0.066030	0.48	0.9	40.35	5.33	5.80E-16	37.60	0.00	0.01	0.06	3.4	5.9	28.4	+- 2.6
3.4	10.774	0.009071	0.001342	0.25	0.24	91.4	29.48	3.90E-15	96.30	0.00	0.00	0.18	54.0	45.1	25.1	+- 0.3
3.6	10.685	0.017127	0.001798	0.36	0.63	96.87	40.05	1.80E-15	95.00	0.00	0.00	0.26	28.6	20.8	24.6	+- 0.5
3.8	11.767	0.037910	0.004165	0.69	0.46	93.11	69.92	8.90E-16	89.60	0.00	0.00	0.25	12.9	10.1	25.5	+- 2.0
12.0	10.498	0.026410	0.000230	0.42	0.51	76.75	571.27	1.60E-15	99.40	0.00	0.00	3.14	18.6	18.0	25.2	+- 0.9
CP96-1.0A		Wh. Mica		J =	0.001355	+-	6.8E-06	(1 s.d.)		Exp. No.:	yn0l5167.IHD		Total gas age =		30.4	+- 0.3
3.3	16.21	0.005264	0.012077	0.15	0.28	153.92	4.83	5.00E-15	78.00	0.00	0.00	0.01	93.1	32.1	30.6	+- 0.4
3.4	14.364	0.006880	0.006479	0.15	0.44	159.86	17.45	3.90E-15	86.70	0.00	0.00	0.03	71.2	25.2	30.2	+- 0.8
3.5	16.918	0.013237	0.013894	0.31	0.61	100	7.18	2.50E-15	75.70	0.00	0.00	0.03	37.0	15.9	31.1	+- 0.7
3.7	15.713	0.008935	0.011514	0.41	0.47	100	14.2	1.80E-15	78.30	0.00	0.00	0.02	54.8	11.8	29.8	+- 1.1
12	20.84	0.004923	0.028880	0.21	0.58	236.38	4.97	2.30E-15	59.00	0.00	0.00	0.00	99.5	15.1	29.8	+- 1.1
CP96-1.0A				J =	0.001355	+-	6.8E-06	(1 s.d.)		Exp. No.:	yn0l5175.IHD		Total gas age =		32.2	+- 0.6
3.3	18.915	0.026700	0.018372	0.17	0.28	20.64	4.29	5.00E-15	71.30	0.00	0.00	0.04	18.4	59.1	32.7	+- 0.5
3.4	15.589	0.009430	0.006913	0.35	0.59	100	23.1	2.00E-15	86.90	0.00	0.00	0.04	52.0	23.7	32.8	+- 1.1
3.5	18.862	0.023280	0.025150	0.76	0.91	100	14.83	6.90E-16	60.60	0.00	0.00	0.03	21.0	9.6	27.7	+- 2.6
12.0	23.91	0.007157	0.035880	0.66	0.96	875.98	11.63	6.40E-16	55.70	0.00	0.00	0.01	68.5	7.7	32.2	+- 2.9
CP96-1.0A		Wh. Mica		J =	0.001355	+-	6.8E-06	(1 s.d.)		Exp. No.:	yn0l5176.IHD		Total gas age =		33.8	+- 0.7
3.3	22.24	0.016974	0.027600	0.35	0.26	114.43	5.21	2.80E-15	63.30	0.00	0.00	0.02	28.9	34.4	34.1	+- 1.0
3.4	14.687	0.013438	0.001421	0.46	0.55	100	151.7	1.50E-15	97.10	0.00	0.00	0.26	36.5	18.4	34.5	+- 1.6
3.5	14.652	0.001135	0.002820	0.33	0.53	1772.77	50.31	2.20E-15	94.30	0.00	0.00	0.01	431.8	27.9	33.5	+- 1.0
12.0	14.006	0.017756	0.001208	0.47	0.76	173.82	221.32	1.50E-15	97.50	0.00	0.00	0.40	27.6	19.3	33.1	+- 1.8
CP96-1.0A				J =	0.001355	+-	6.8E-06	(1 s.d.)		Exp. No.:	yn0l5177.IHD		Total gas age =		38.3	+- 0.5
3.3	19.432	0.007534	0.013113	0.17	0.29	100	6.84	5.30E-15	80.10	0.00	0.00	0.02	65.0	44.3	37.6	+- 0.6
3.4	16.446	0.008223	0.001353	0.29	0.31	100	108.87	2.70E-15	97.60	0.00	0.00	0.17	59.6	22.1	38.8	+- 1.0
3.6	16.168	0.005960	0.000177	0.52	1	673.72	1443.08	1.30E-15	99.70	0.00	0.00	0.92	82.2	10.1	39.0	+- 1.8
12.0	17.537	0.010246	0.005382	0.23	0.44	174.84	20.35	2.90E-15	90.90	0.00	0.00	0.05	47.8	23.5	38.6	+- 0.8

Table DR8

CP96-1.0A	Wh. Mica	J =	0.001355 +-	6.8E-06 (1 s.d.)	Exp. No.:	yn0l5178.IHD	Total gas age =	34.2 +-	0.2							
3.3	24.09	0.070960	0.034070	0.17	0.43	7.61	1.51	4.90E-15	58.20	0.00	0.00	0.06	6.9	17.2	34.0 +-	0.5
3.4	15.55	0.007881	0.003438	0.22	0.56	190.8	23.73	3.10E-15	93.50	0.00	0.00	0.06	62.2	10.7	35.2 +-	0.6
3.5	15.423	0.005748	0.004597	0.12	0.29	141.37	11.62	5.10E-15	91.20	0.00	0.00	0.03	85.2	18.0	34.1 +-	0.4
3.8	14.59	0.008959	0.001419	0.14	0.09	34.96	17.05	1.30E-14	97.10	0.00	0.00	0.17	54.7	46.9	34.3 +-	0.2
12.0	15.585	0.043580	0.006374	0.37	0.68	49.17	19.33	2.00E-15	87.90	0.00	0.00	0.19	11.2	7.2	33.2 +-	0.9
CP96-1.0A	Wh. Mica	J =	0.001355 +-	6.8E-06 (1 s.d.)	Exp. No.:	yn0l5179.IHD	Total gas age =	324.1 +-	1.6							
(e) 3.3	225.4	0.026580	0.132000	0.12	0.28	19.79	1.32	7.90E-14	82.70	0.00	0.00	0.01	18.4	19.2	406.2 +-	1.7
3.4	182.24	0.016605	0.022380	0.11	0.48	100	7.42	3.00E-14	96.40	0.00	0.00	0.02	29.5	7.8	385.1 +-	2.0
3.5	133.17	0.009799	0.005632	0.05	0.44	83.62	9.56	7.20E-14	98.80	0.00	0.00	0.05	50.0	25.1	295.8 +-	1.3
3.6	126.26	0.029470	0.006109	0.04	0.28	30.07	8.7	5.20E-14	98.60	0.00	0.00	0.13	16.6	18.9	281.1 +-	0.8
3.8	132.22	0.029240	0.005819	0.13	0.32	37.9	6.74	4.90E-14	98.70	0.00	0.00	0.14	16.8	16.9	293.7 +-	1.0
12.0	143.77	0.025970	0.006857	0.15	0.51	62.91	8.23	3.70E-14	98.60	0.00	0.00	0.10	18.9	12.0	317.0 +-	1.6

(a) Steps labeled either as percentage of maximum laser power (20W CO2 laser defocussed to a c. 2 mm wide beam)
(b) Corrected for 37Ar and 39Ar decay, half-lives 35.1 days and 259 years, respectively.
(c) Radiogenic (R), calcium-derived (Ca), and potassium-derived (K) argon, respectively (percent).
(d) Ages calculated relative to FC-1 Sanidine at 28.02 Ma with lambda e = 0.581E-10/yr and lambda b = 4.692E-10/yr.
(e) Step of discordant step-heating experiment not used in total gas age in the summary Table __.