

### $^{40}\text{Ar}/^{39}\text{Ar}$ Ages and Ash-flow Tuff Correlation

We have recognized at least 16 separate ash-flow tuffs in the paleovalley system that extends westward across the northern Walker Lane. Tuffs were correlated between different segments of the paleovalleys by geologic mapping, petrographic analysis, and, particularly, by  $^{40}\text{Ar}/^{39}\text{Ar}$  dating reported here. Table DR1 provides ages of individual samples. Table DR2 summarizes average ages, which correlate with Figure 2, and gives locations. Only one of the ash-flow tuffs is formally named (Nine Hill Tuff). Names of the other tuffs are informal and therefore not used in the text. Table DR3 presents all the analytical data and representative age-probability diagrams. Some tuffs are petrographically distinctive. E.g., the tuff of Chimney Spring contains about 20% each phenocrysts of smoky quartz and adularic sanidine. The tuff of Campbell Creek contains characteristic vermicular quartz easily observed with the naked eye. The 25.3 Ma Nine Hill Tuff, which is the only formally named unit, extends from eastern Nevada westward to the western foothills of the Sierra Nevada (Deino, 1985; 1989). It contains abundant, large (up to ~1 m long) pumice fragments and three feldspars – sanidine, anorthoclase, and plagioclase. Although some other tuffs are not so distinctive, they can generally be correlated with the addition of stratigraphic position.

$^{40}\text{Ar}/^{39}\text{Ar}$  dating of sanidine is an especially powerful correlation tool (McIntosh et al., 1990, 1992; McIntosh and Chamberlin, 1994), especially by the single crystal method. Ages are typically precise to less than 0.1 Ma  $2\sigma$ , which is confirmed by multiple dates from single units. The K/Ca ratio of sanidine, an added result of  $^{40}\text{Ar}/^{39}\text{Ar}$  dating, is an additional and commonly very useful correlation tool (Table DR1). These ratios range from ~10 to 70 in samples reported here and as high as 200 in other rhyolitic tuffs we have dated. Ratios of individual tuffs are generally consistent and, although not unique, are commonly distinct from ratios of other tuffs. The Nine Hill Tuff has a particularly low ratio, ~10, probably because sanidine crystallized at high temperature (~900°C; Deino, 1985), which allowed greater substitution of Ca in the sanidine lattice. The K/Ca ratio of four samples of the 30.4 Ma tuff ranges from 31.9 to 32.4 (Table DR1). This ratio can help confirm correlations based on other characteristics and distinguish between tuffs that are otherwise indistinguishable in age.

Table DR1 summarizes representative ages of ash-flow tuffs in different segments of the paleovalley system. Some of the less distinctive tuffs were dated in all or most segments to ensure correlation. In contrast, the distinctive tuffs were dated only early in our investigation or to test correlation with intracaldera tuffs. The Nine Hill Tuff is so distinctive and its age of 25.3 Ma so well established (Deino, 1989) that repetitive dating was unwarranted. Dating of the 25.1-Ma tuff of Poco Canyon (Table DR2), an intracaldera tuff in the Stillwater Range (John, 1995), was done to confirm John's interpretation that the caldera was the source of the petrographically indistinguishable tuff of Chimney Spring.

Weighted mean ages were calculated by the method of Samson and Alexander (1987). Ages of obviously xenocrystic grains or plagioclase were not used. The neutron flux monitor in all analyses was sanidine from Fish Canyon Tuff, initially using an assigned age of 27.84 (Samson and Alexander, 1987). Recent work suggests an age of 28.02 Ma is more appropriate for Fish Canyon Tuff (Renne et al., 1998). The ages of Table DR1 were recalculated to the 28.02 Ma age by multiplying the original age by 28.02/27.84. Although not precisely correct, this method gives ages that differ from the correct ages only in the third decimal, which we do not report. Thus our reported age of 25.3 Ma for the Nine Hill Tuff is the same as the 25.1 Ma age reported by Deino (1989). Table DR3 reports the original analytical data, which have not been recalculated to the 28.02 Ma monitor age.

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Table DR1. Summary of  $^{40}\text{Ar}/^{39}\text{Ar}$  analytical data of sanidine from representative samples of ash-flow tuffs.

Figure 2A Diamond Mountains						Fort Sage Mountains					Dogskin Mountain					Virginia Mountains					Nightengale Range					Central Nevada caldera belt								
#	Age	Sample	Age (Ma)	$\pm 2\sigma$	K/Ca $\pm 2\sigma$	n	Sample	Age (Ma)	$\pm 2\sigma$	K/Ca $\pm 2\sigma$	n	Sample	Age (Ma)	$\pm 2\sigma$	K/Ca $\pm 2\sigma$	n	Sample	Age (Ma)	$\pm 2\sigma$	K/Ca $\pm 2\sigma$	n	Sample	Age (Ma)	$\pm 2\sigma$	K/Ca $\pm 2\sigma$	n	Sample	Age (Ma)	$\pm 2\sigma$	K/Ca $\pm 2\sigma$	n			
16	24.9											MC-15	24.90	0.06	47.0	3.5	14						H00-104	24.91	0.06	43.8	5.7	15						
												H02-165	24.83	0.07	49.7	15.3	16																	
15	25.1											MC-12	25.07	0.06	37.1	11.3	15						86-DJ-107	25.10	0.07	49.1	7.2	10						
												MC-16	25.07	0.06	34.1	9.9	15																	
14	25.3											MC-10	25.25	0.06	9.1	2.4	15						H00-78	25.27	0.07	9.4	2.5	15						
13	28.6											H02-11	28.54	0.10	9.5	8.7	15																	
												H01-31	28.58	0.10	8.6	8.5	14																	
12	28.8	H02-91	28.79	0.08	52.8	8.1	10					H01-61	28.86	0.11	57.5	5.8	16						H00-101	28.81	0.07	49.1	6.3	11						
11	29.2																					CA-26	0.00	0.08	19.3	2.2	9							
												MC-6	29.21	0.10	28.1	1.7	4																	
												F99-762	29.25	0.11	28.6	2.1	5																	
10	29.9											MC-2	29.92	0.07	25.6	1.4	14	NR-6	29.87	0.07	28.0	1.6	12											
												F02-161	29.85	0.10	26.5	3.7	17																	
8	30.1											H01-184	30.13	0.12	29.3	4.5	16	F02-086	30.12	0.09	28.5	3.8	17											
6	30.3											F01-474	30.29	0.12	30.8	6.5	15						CA-20	30.10	0.09	29.7	4.7	17						
5	30.4	H02-80S	30.33	0.08	32.4	7.5	15					F02-192	30.37	0.07	32.2	4.3	15	NR-3	30.45	0.07	31.9	2.0	15											
4	31.0											F01-489b	31.06	0.09	23.2	1.9	15						CA-13	31.05	0.08	23.6	2.3	16						
																						CA-17	30.95	0.10	24.1	2.9	14							
3	31.0	H02-79	31.01	0.09	39.2	5.2	14					H02-52	31.11	0.08	39.0	8.0	15	F01-457	30.95	0.13	39.6	3.9	13											
2	31.2											H02-58	31.33	0.09	69.3	47.4	15	F01-458	31.20	0.13	72.6	50.9	14											
1	31.3	H02-78	31.32	0.08	46.8	13.4	15	NH02-18	31.28	0.09	46.5	5.1	15	H02-59	31.31	0.09	46.7	12.1	16				NR-1	31.31	0.07	46.9	4.9	15	CA-8	31.34	0.09	39.2	18.1	14

n = number of single grains used in age calculation.

Decay constants and isotopic abundances after Steiger and Jäger (1977)

Sanidine was separated from crushed, sieved samples by standard magnetic and density techniques;

concentrates were leached with dilute HF to remove matrix and handpicked

Complete isotopic data and analytical parameters are presented in Table DR3 (GSA Data Repository)

$^{40}\text{Ar}/^{39}\text{Ar}$  methods: McIntosh and Chamberlin (1994)

Samples were irradiated in Al discs for 7 hours in D-3 position, Nuclear Science Center, College Station, TX

Neutron flux monitor: Fish Canyon Tuff sanidine (FC-1). Ages were calculated initially with an assumed age of 27.84 Ma relative to MMhb-1 at 520.4 Ma (Samson and Alexander, 1987).

Ages reported here were recalculated to an age of 28.02 Ma for Fish Canyon Sanidine (Renne et al., 1998; Deino and Potts, 1990) by multiplying initial ages by 28.02/27.84.

Weighted mean  $^{40}\text{Ar}/^{39}\text{Ar}$  ages calculated by the method of Samson and Alexander (1987)

**Table DR2. Location data for samples of rhyolitic ash-flow tuffs dated by 40Ar/39Ar method.**

#	Age	Sample	Formal or informal name	General location	7.5' Quadrangle	County	State	Latitude	Longitude
16	24.9	MC-15	tuff of Painted Hills	Mine Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.89617	-119.68667
		H02-165	tuff of Painted Hills	northern Pah Rah Range	Moses Rock	Washoe	NV	39.83380	-119.60133
		H00-104	tuff of Elevenmile Canyon	Clan Alpine Mountains	Wonder Mountain	Churchill	NV	39.37583	-118.04333
15	25.1	MC-12	tuff of Chimney Spring	Mine Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.89650	-119.68667
		MC-16	tuff of Chimney Spring	Mine Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.89650	-119.68300
		86-DJ-107	tuff of Poco Canyon	Stillwater Range	Table Mt	Churchill	NV	39.61111	-118.25972
14	25.3	MC-10	Nine Hill Tuff	Mine Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.89883	-119.68633
		H00-78	Nine Hill Tuff (unit D of Bates Mountain Tuff)	US 50 roadcut at New Pass	New Pass	Churchill	NV	39.57637	-117.52721
13	28.6	H02-11	tuff of Winnemucca Ranch	Dogskin Mountain	Dogskin Mt	Washoe	NV	39.94667	-119.86417
		H01-31	tuff of Winnemucca Ranch	Winnemucca Ranch, Virginia Mountains	Dogskin Mt	Washoe	NV	39.96667	-119.81617
12	28.8	H02-91	tuff of Campbell Creek	Black Mountain, Diamond Range	Ferris Creek	Plumas	CA	40.11450	-120.27497
		H01-61	tuff of Campbell Creek	Dogskin Mountain	Dogskin Mtn	Washoe	NV	39.94000	-119.81433
		H00-101	tuff of Campbell Creek	Campbell Creek, Desatoya Mountains	Campbell Creek Ranch	Lander	NV	39.24111	-117.65833
11	29.2	MC-6	tuff of Dogskin Mountain	Mine Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.90000	-119.68833
		F99-762	tuff of Dogskin Mountain	Mine Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.90712	-119.69087
		CA-26	tuff of Dogskin Mountain	Shoshone Creek, Clan Alpine Mountains	Shoshone Meadows	Churchill	NV	39.78968	-117.64225
10	29.9	MC-2	tuff of Cove Spring	Mine Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.89983	-119.69883
		F02-161	tuff of Cove Spring	Sutcliffe, Virginia Mountains	Sutcliffe	Washoe	NV	39.91579	-119.60283
		NR-6	tuff of Jackass Spring	Coyote Canyon, Nightengale Mountains	Russell Peak	Washoe	NV	39.97450	-119.25383
8	30.1	H01-184	tuff of Sutcliffe	Dogskin Mountain	Dogskin Mt	Washoe	NV	39.93533	-119.84300
		F02-086	tuff of Sutcliffe	Hardscrabble Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.93958	-119.65583
		CA-20	tuff of Sutcliffe	Shoshone Creek, Clan Alpine Mountains	Shoshone Meadows	Churchill	NV	39.79513	-117.64658
6	30.3	F01-474	none	Virginia Mountains	Tule Peak	Washoe	NV	39.95517	-119.74483
5	30.4	H02-80S	tuff of Sutcliffe	Black Mountain, Diamond Range	Ferris Creek	Plumas	CA	40.11405	-120.32958
		H02-41	tuff of Sutcliffe	Dogskin Mountain	Dogskin Mt	Washoe	NV	39.95910	-119.85843
		F02-192	tuff of Sutcliffe	Virginia Mountains	Sutcliffe	Washoe	NV	39.92372	-119.59986
		NR-3	tuff of Rattlesnake Canyon	Coyote Canyon, Nightengale Mountains	Russell Peak	Washoe	NV	39.96683	-119.25683
4	31.0	F01-489b	tuff of Job Canyon(?)	Hardscrabble Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.94920	-119.63981
		CA-13	tuff of Job Canyon(?)	Mud Springs Canyon, Clan Alpine Mountains	Bernice Canyon	Churchill	NV	39.81932	-117.75270
		CA-17	tuff of Job Canyon(?)	Shoshone Creek, Clan Alpine Mountains	Shoshone Meadows	Churchill	NV	39.79548	-117.65123
3	31.0	H02-79	tuff of Rattlesnake Canyon	Black Mountain, Diamond Range	Ferris Creek	Plumas	CA	40.11045	-120.34308
		H02-52	tuff of Rattlesnake Canyon	Dogskin Mountain	Dogskin Mt	Washoe	NV	39.95418	-119.86646
		F01-457	tuff of Rattlesnake Canyon	Hardscrabble Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.94291	-119.63251
		CA-11	tuff of Rattlesnake Canyon	Mud Springs Canyon, Clan Alpine Mountains	Bernice Canyon	Churchill	NV	39.81775	-117.75533
2	31.2	H02-58	tuff of Hardscrabble Canyon	Dry Valley Creek, Dogskin Mountain	Dogskin Mt	Washoe	NV	39.97032	-119.86677
		F01-458	tuff of Hardscrabble Canyon	Hardscrabble Canyon, Virginia Mountains	Tule Peak	Washoe	NV	39.94259	-119.63312
		CA-10	tuff of Hardscrabble Canyon	Mud Springs Canyon, Clan Alpine Range	Bernice Canyon	Churchill	NV	39.81618	-117.75845
1	31.3	H02-78	tuff of Axehandle Canyon	Black Mountain, Diamond Range	Ferris Creek	Plumas	CA	40.10970	-120.34367
		NH02-18	tuff of Axehandle Canyon	Fort Sage Mountains	Doyle	Lassen	CA	40.03889	-120.01750
		H02-59	tuff of Axehandle Canyon	Dry Valley Creek, Dogskin Mountain	Dogskin Mt	Washoe	NV	39.96970	-119.86622
		NR-1	tuff of Axehandle Canyon	Coyote Canyon, Nightengale Mountains	Russell Peak	Washoe	NV	39.96533	-119.25633
		CA-8	tuff of Axehandle Canyon	Mud Springs Canyon, Clan Alpine Mountains	Bernice Canyon	Churchill	NV	39.81437	-117.75973

**Table DR3. Analytical data and representative age--probability diagrams of  $^{40}\text{Ar}/^{39}\text{Ar}$  analyses of sanidine.**

ID	$^{40}\text{Ar}/^{39}\text{Ar}$	$^{37}\text{Ar}/^{39}\text{Ar}$	$^{36}\text{Ar}/^{39}\text{Ar}$ ( $\times 10^{-3}$ )	$^{39}\text{Ar}_K$ ( $\times 10^{-15}$ mol)	K/Ca	Cl/K	$^{40}\text{Ar}^*$ (%)	Age (Ma)	$\pm 1s$ (Ma)
<b>H02-165 sa, B15:162, single crystal sanidine, J=0.0008154<math>\pm</math>0.09%, D=1.00534<math>\pm</math>0.0014, NM-162, Lab#=53896</b>									
10	18.08	0.0099	4.538	33.545	51.8	0.000	92.6	24.454	0.072
16	17.04	0.0108	0.8759	18.064	47.3	0.001	98.5	24.516	0.058
14	17.36	0.0105	1.943	26.748	48.7	0.000	96.7	24.525	0.095
04	18.25	0.0210	4.886	37.068	24.3	0.001	92.1	24.562	0.084
13	16.98	0.0087	0.4179	11.595	58.8	0.001	99.3	24.632	0.078
11	17.10	0.0098	0.7556	32.921	52.3	0.000	98.7	24.662	0.063
06	17.09	0.0095	0.7141	43.817	53.7	0.001	98.8	24.669	0.050
05	18.87	0.0110	6.687	31.826	46.2	0.001	89.5	24.677	0.084
02	16.99	0.0087	0.3100	24.878	58.8	0.001	99.5	24.687	0.061
01	17.14	0.0100	0.8151	65.550	50.9	0.001	98.6	24.688	0.045
07	17.11	0.0101	0.6652	33.362	50.3	0.000	98.9	24.709	0.053
12	17.33	0.0106	1.407	26.571	48.0	0.001	97.6	24.712	0.056
15	17.09	0.0101	0.5730	30.142	50.4	0.001	99.0	24.717	0.057
09	17.65	0.0091	2.469	27.488	56.2	0.001	95.9	24.729	0.074
08	17.01	0.0106	0.1841	13.156	48.0	0.001	99.7	24.772	0.066
03	17.46	0.0104	1.525	29.537	49.3	0.001	97.4	24.853	0.055
<b>Mean age <math>\pm 2s</math></b>		n=16	MSWD=2.44		49.7 $\pm$ 15.6			24.675	0.070
<b>H02-11 sa, C6:162, single crystal sanidine, J=0.0008153<math>\pm</math>0.09%, D=1.00741<math>\pm</math>0.00068, NM-162, Lab#=53903</b>									
02	19.69	0.0269	1.837	27.670	18.9	0.000	97.3	27.95	0.17
13	20.80	0.0433	5.452	16.619	11.8	0.000	92.3	28.014	0.086
09	23.80	0.0606	15.21	5.131	8.4	0.000	81.1	28.18	0.20
04	19.86	0.1281	1.726	8.107	4.0	0.000	97.5	28.25	0.11
08	20.91	0.0563	5.235	8.194	9.1	0.001	92.6	28.259	0.086
01	20.40	0.0408	3.480	15.639	12.5	0.001	95.0	28.270	0.070
05	25.25	0.0435	19.84	18.491	11.7	0.001	76.8	28.31	0.10
03	25.86	0.0760	21.87	16.216	6.7	0.000	75.0	28.31	0.11
06	21.10	0.0565	5.655	10.770	9.0	0.001	92.1	28.368	0.087
12	20.20	0.0317	2.497	12.603	16.1	0.001	96.4	28.399	0.085
11	20.09	0.1454	2.019	5.393	3.5	0.000	97.1	28.47	0.11
10	21.28	0.0434	5.858	9.524	11.8	0.001	91.9	28.529	0.096
15	19.67	0.0713	0.3763	15.337	7.2	0.000	99.5	28.545	0.063
14	21.29	0.0875	5.766	7.102	5.8	0.000	92.0	28.59	0.13

07	25.86	0.0816	21.22	10.710	6.3	0.001	75.8	28.61	0.15
<b>Mean age ± 2s</b>	n=15	MSWD=3.31		9.5	±8.7			28.36	0.10

**H01-31 sa**, C3:162, single crystal sanidine, J=0.0008165±0.09%, D=1.00707±0.00127, NM-162, Lab#=53900

13	19.35	0.1571	1.842	2.596	3.2	0.000	97.3	27.52	0.20
07	19.52	0.0449	0.7505	6.532	11.4	0.001	98.9	28.205	0.100
10	19.53	0.0382	0.7733	18.384	13.4	0.001	98.8	28.209	0.081
06	19.97	0.0525	2.140	10.675	9.7	0.001	96.9	28.27	0.10
12	19.56	0.0460	0.5937	10.893	11.1	0.001	99.1	28.329	0.094
15	19.65	0.1344	0.9426	6.059	3.8	0.000	98.6	28.33	0.10
11	19.51	0.0572	0.4222	7.963	8.9	0.001	99.4	28.334	0.097
02	19.54	0.1146	0.5307	9.244	4.5	0.001	99.2	28.34	0.10
05	19.56	0.1157	0.5723	4.992	4.4	0.000	99.2	28.36	0.12
01	19.91	0.0351	1.703	26.363	14.5	0.001	97.5	28.370	0.058
14	19.75	0.0377	0.9357	8.616	13.5	0.001	98.6	28.467	0.083
08	19.77	0.4186	1.009	9.431	1.2	0.000	98.7	28.515	0.096
04	19.82	0.0475	1.032	6.166	10.7	0.000	98.5	28.52	0.13
03	20.35	0.0573	2.506	9.100	8.9	0.001	96.4	28.66	0.10
09	19.75	0.1303	0.1735	7.188	3.9	0.001	99.8	28.801	0.095
<b>Mean age ± 2s</b>	n=14	MSWD=3.13		8.6	±8.5			28.40	0.10

**H02-91 sa**, B14:162, single crystal sanidine, J=0.0008159±0.09%, D=1.00534±0.0014, NM-162, Lab#=53895

24	20.54	1.519	8.178	0.639	0.34	0.001	88.8	26.69	0.68
10	20.10	1.586	5.523	1.362	0.32	0.002	92.5	27.20	0.28
02	20.08	1.639	4.997	1.409	0.31	0.001	93.3	27.40	0.33
07	20.39	1.596	5.026	0.985	0.32	0.002	93.4	27.84	0.43
09	19.71	1.655	2.598	1.314	0.31	0.001	96.8	27.90	0.32
04	19.65	1.491	2.231	0.715	0.34	0.002	97.3	27.95	0.56
11	20.63	1.659	5.438	3.017	0.31	0.001	92.9	28.02	0.23
08	20.04	1.583	3.302	0.698	0.32	0.001	95.8	28.06	0.56
15	20.20	1.598	3.708	0.550	0.32	0.000	95.2	28.12	0.53
13	20.21	1.756	3.223	1.720	0.29	0.001	96.0	28.37	0.29
16	21.63	1.682	8.008	0.767	0.30	0.000	89.7	28.37	0.50
05	19.60	1.542	1.014	2.561	0.33	0.001	99.1	28.41	0.21
03	19.61	1.743	1.009	1.306	0.29	0.002	99.2	28.45	0.36
27	19.75	0.0092	0.9178	10.070	55.5	0.001	98.6	28.447	0.091
01	19.53	0.0085	0.1046	17.409	60.0	0.001	99.8	28.48	0.11
25	19.80	0.0100	0.7702	14.705	50.8	0.001	98.9	28.581	0.083
18	19.75	0.0101	0.5789	8.254	50.7	0.001	99.1	28.586	0.096

28	19.73	0.0103	0.5029	16.817	49.4	0.001	99.3	28.597	0.071
23	19.67	0.0101	0.2771	18.889	50.7	0.000	99.6	28.601	0.062
12	19.60	1.859	0.6352	1.516	0.27	0.001	99.8	28.60	0.34
22	19.75	0.0094	0.5588	13.901	54.1	0.000	99.2	28.605	0.076
14	19.73	0.0087	0.4516	11.763	58.6	0.000	99.3	28.615	0.070
26	19.44	1.634	-0.1343	0.964	0.31	0.003	100.9	28.68	0.41
21	19.84	0.0103	0.5552	23.926	49.3	0.000	99.2	28.728	0.065
06	19.92	0.0105	0.3477	12.097	48.7	0.000	99.5	28.93	0.13
17	20.97	1.529	3.910	1.082	0.33	0.001	95.1	29.14	0.38
<b>Mean age ± 2s</b>	n=10	MSWD=1.55		52.8	±8.1			28.61	0.08

**F02-161 sa**, A12:162, single crystal sanidine, J=0.0008135±0.09%, D=1.00647±0.00154, NM-162, Lab#=53877

04	20.27	0.0220	0.7253	7.918	23.2	0.000	99.0	29.20	0.11
06	20.37	0.0199	0.5276	7.908	25.7	0.000	99.2	29.43	0.10
16	20.37	0.0204	0.3077	4.686	25.0	0.000	99.6	29.52	0.11
01	20.45	0.0192	0.5657	22.774	26.5	0.001	99.2	29.521	0.098
08	20.42	0.0195	0.4390	9.519	26.2	0.001	99.4	29.543	0.100
14	20.28	0.0187	-0.0767	3.051	27.3	0.001	100.1	29.55	0.21
02	20.41	0.0191	0.3477	14.048	26.7	0.001	99.5	29.563	0.080
07	20.43	0.0208	0.3973	9.016	24.5	0.000	99.4	29.57	0.10
05	20.51	0.0197	0.6021	11.869	26.0	0.000	99.1	29.599	0.075
09	20.35	0.0212	0.0069	5.096	24.1	0.000	100.0	29.62	0.12
15	20.44	0.0196	0.3034	29.930	26.0	0.000	99.6	29.629	0.080
11	20.30	0.0178	-0.4539	5.415	28.7	0.001	100.7	29.74	0.11
17	20.55	0.0167	0.2892	8.763	30.6	0.001	99.6	29.789	0.086
03	20.55	0.0186	0.3019	16.297	27.4	0.000	99.6	29.789	0.078
13	20.55	0.0185	0.2576	25.973	27.6	0.001	99.6	29.799	0.082
12	20.47	0.0195	-0.0245	21.104	26.2	0.000	100.0	29.812	0.064
10	20.57	0.0178	-0.0276	8.840	28.7	0.001	100.0	29.948	0.097
<b>Mean age ± 2s</b>	n=17	MSWD=3.33		26.5	±3.7			29.657	0.100

**F02-086 sa**, A13:162, single crystal sanidine, J=0.0008133±0.09%, D=1.00647±0.00154, NM-162, Lab#=53878

09	20.20	0.0159	-0.6149	11.286	32.2	0.001	100.9	29.66	0.11
14	20.60	0.0175	0.6778	30.781	29.2	0.001	99.0	29.70	0.13
02	20.52	0.0184	0.3009	10.755	27.8	0.000	99.6	29.738	0.089
17	20.61	0.0176	0.5452	15.822	29.0	0.000	99.2	29.766	0.072
15	21.28	0.0203	2.766	10.906	25.1	0.000	96.2	29.78	0.11
07	20.70	0.0200	0.6549	8.193	25.5	0.001	99.1	29.84	0.11
11	20.06	0.0168	-1.5499	10.087	30.3	0.001	102.3	29.866	0.094

01	20.92	0.0178	1.285	25.277	28.6	0.001	98.2	29.896	0.080
03	20.62	0.0161	0.2108	26.609	31.6	0.000	99.7	29.914	0.077
16	20.75	0.0180	0.5598	30.345	28.3	0.000	99.2	29.958	0.064
08	20.82	0.0182	0.6764	18.354	28.1	0.001	99.0	30.006	0.079
12	20.76	0.0194	0.3810	9.456	26.3	0.001	99.5	30.045	0.089
10	20.03	0.0172	-2.1151	6.066	29.7	0.000	103.1	30.06	0.10
06	20.91	0.0187	0.7731	13.531	27.2	0.000	98.9	30.095	0.087
05	21.28	0.0182	1.934	16.502	28.0	0.001	97.3	30.14	0.14
04	21.03	0.0176	0.9750	22.686	29.0	0.001	98.6	30.18	0.17
13	20.95	0.0183	0.4479	7.990	27.9	0.000	99.4	30.29	0.10
<b>Mean age ± 2s</b>		n=17	MSWD=2.89		28.5 ±3.8			29.928	0.090

**CA-20 sa**, B6:162, single crystal sanidine, J=0.0008116±0.09%, D=1.00725±0.00117, NM-162, Lab#=53887

13	20.74	0.0189	1.155	6.726	26.9	0.001	98.4	29.62	0.12
06	20.58	0.0164	0.5129	25.103	31.1	0.000	99.3	29.669	0.078
03	26.56	0.0223	20.66	27.960	22.9	0.000	77.0	29.71	0.12
07	20.79	0.0166	0.9445	8.896	30.7	0.001	98.7	29.78	0.10
21	20.64	0.0165	0.3652	26.383	31.0	0.001	99.5	29.822	0.066
15	20.92	0.0178	1.268	8.628	28.7	0.001	98.2	29.84	0.12
04	20.72	0.0180	0.5416	27.584	28.4	0.001	99.2	29.851	0.065
10	20.65	0.0162	0.2955	18.836	31.5	0.001	99.6	29.860	0.088
02	20.80	0.0166	0.7166	35.968	30.7	0.001	99.0	29.905	0.057
08	21.10	0.0187	1.685	20.144	27.3	0.000	97.6	29.916	0.074
22	20.74	0.0161	0.3764	15.792	31.6	0.000	99.5	29.950	0.083
05	20.73	0.0165	0.2986	24.333	30.9	0.001	99.6	29.97	0.14
01	21.03	0.0174	1.334	32.047	29.3	0.001	98.1	29.973	0.067
12	20.74	0.0160	0.2877	7.923	31.9	0.001	99.6	30.000	0.098
14	20.80	0.0173	0.4211	22.397	29.4	0.001	99.4	30.029	0.078
09	20.75	0.0172	0.0814	16.413	29.7	0.000	99.9	30.096	0.080
11	20.78	0.0158	0.0267	14.072	32.2	0.000	100.0	30.164	0.081
<b>Mean age ± 2s</b>		n=17	MSWD=2.67		29.7 ±4.7			29.905	0.090

**H02-80s**, B12:162, single crystal sanidine, J=0.0008158±0.09%, D=1.00534±0.0014, NM-162, Lab#=53893

07	20.70	0.0128	0.5724	6.092	39.9	0.001	99.2	29.966	0.096
01	20.59	0.0135	0.1697	15.389	37.8	0.001	99.8	29.98	0.13
03	20.61	0.0157	0.1514	24.824	32.6	0.000	99.8	30.023	0.066
02	20.66	0.0156	0.2001	35.524	32.7	0.001	99.7	30.077	0.062
05	20.74	0.0171	0.4533	21.996	29.8	0.000	99.4	30.080	0.070
10	20.72	0.0196	0.3399	7.662	26.1	0.001	99.5	30.100	0.090



15	20.72	0.0159	0.3061	18.113	32.1	0.001	99.6	30.111	0.066
13	20.77	0.0146	0.4280	8.042	35.0	0.001	99.4	30.127	0.097
04	20.84	0.0180	0.6405	7.405	28.4	0.001	99.1	30.136	0.097
09	20.71	0.0169	0.2106	20.903	30.1	0.001	99.7	30.141	0.066
06	20.68	0.0145	0.0794	9.230	35.3	0.000	99.9	30.144	0.090
11	20.75	0.0164	0.2492	10.475	31.2	0.001	99.7	30.18	0.14
12	20.86	0.0182	0.5705	6.905	28.1	0.001	99.2	30.199	0.096
08	20.83	0.0146	0.2710	13.966	34.9	0.001	99.6	30.283	0.077
14	20.84	0.0161	0.0958	15.299	31.6	0.001	99.9	30.376	0.071
<b>Mean age ± 2s</b>		n=15	MSWD=1.78		32.4 ±7.5			30.133	0.080

**H02-41 sa**, C8:162, single crystal sanidine, J=0.0008157±0.09%, D=1.00741±0.00068, NM-162, Lab#=53905

02	20.73	0.0143	0.6526	18.285	35.6	0.000	99.1	29.976	0.087
12	20.82	0.0152	0.8766	14.478	33.5	0.000	98.8	30.02	0.10
09	20.71	0.0155	0.2539	13.758	32.8	0.001	99.6	30.119	0.059
13	20.75	0.0163	0.2874	18.534	31.3	0.001	99.6	30.154	0.067
08	20.73	0.0150	0.2155	22.571	34.0	0.000	99.7	30.169	0.058
11	20.76	0.0191	0.2878	34.423	26.7	0.001	99.6	30.175	0.053
01	20.82	0.0161	0.4481	27.068	31.7	0.001	99.4	30.197	0.055
10	20.77	0.0144	0.2261	15.589	35.5	0.001	99.7	30.219	0.075
07	20.82	0.0156	0.3536	6.700	32.8	0.000	99.5	30.24	0.12
03	20.74	0.0161	0.0298	13.289	31.7	0.001	100.0	30.251	0.073
04	20.75	0.0160	0.0312	21.407	31.8	0.001	100.0	30.277	0.067
15	20.86	0.0188	0.3439	31.373	27.2	0.001	99.5	30.295	0.051
06	20.82	0.0145	0.1764	22.214	35.2	0.001	99.8	30.309	0.053
14	20.78	0.0155	0.0146	15.265	32.8	0.000	100.0	30.316	0.066
05	20.86	0.0152	0.2198	16.681	33.6	0.000	99.7	30.354	0.068
<b>Mean age ± 2s</b>		n=15	MSWD=2.10		32.4 ±5.2			30.219	0.070

**F02-192**, A1:162, single xtal san, J=0.0008128±0.09%, D=1.00693±0.00111, NM-162, Lab#=53866

01	20.71	0.0166	0.3373	9.425	30.8	0.001	99.5	29.976	0.093
06	20.85	0.0154	0.5075	27.336	33.1	0.001	99.3	30.100	0.082
09	20.83	0.0165	0.4538	16.567	30.9	0.001	99.4	30.101	0.074
02	20.93	0.0156	0.7486	23.250	32.6	0.000	98.9	30.117	0.066
10	20.77	0.0166	0.1325	38.893	30.7	0.000	99.8	30.139	0.070
04	20.83	0.0147	0.3116	15.480	34.6	0.000	99.6	30.158	0.080
11	20.81	0.0181	0.1984	22.543	28.1	0.000	99.7	30.179	0.052
08	20.79	0.0171	0.1161	17.025	29.8	0.001	99.8	30.188	0.077
15	20.80	0.0160	0.1269	33.278	32.0	0.001	99.8	30.192	0.062

12	20.76	0.0153	0.0028	23.541	33.3	0.001	100.0	30.192	0.063
03	20.90	0.0157	0.4081	28.976	32.4	0.001	99.4	30.211	0.061
05	20.85	0.0141	0.2117	32.988	36.2	0.001	99.7	30.224	0.055
14	20.83	0.0158	0.1450	34.930	32.2	0.001	99.8	30.227	0.072
13	20.87	0.0144	0.1680	15.745	35.5	0.000	99.8	30.280	0.062
07	20.88	0.0162	0.1711	13.080	31.5	0.001	99.8	30.28	0.21
<b>Mean age ± 2s</b>	n=15	MSWD=0.89		32.2	±4.3			30.177	0.070

**F01-489b**, A8:162, single xtal san, J=0.0008134±0.09%, D=1.00654±0.00124, NM-162, Lab#=53873

06	21.34	0.0216	0.9029	26.960	23.6	0.000	98.8	30.67	0.11
12	21.14	0.0214	0.1870	21.875	23.9	0.001	99.7	30.679	0.078
08	22.04	0.0208	3.229	30.121	24.6	0.001	95.7	30.687	0.088
07	21.59	0.0233	1.649	16.234	21.9	0.000	97.8	30.705	0.087
14	21.18	0.0208	0.2123	29.989	24.5	0.001	99.7	30.729	0.092
15	21.28	0.0211	0.3660	10.604	24.2	0.001	99.5	30.801	0.079
13	21.27	0.0218	0.2952	19.674	23.4	0.000	99.6	30.818	0.085
04	21.31	0.0236	0.4319	28.052	21.6	0.001	99.4	30.827	0.065
01	22.93	0.0215	5.834	26.387	23.7	0.000	92.5	30.849	0.078
11	21.31	0.0224	0.2353	19.311	22.8	0.001	99.7	30.904	0.079
05	21.27	0.0217	0.0745	15.415	23.5	0.001	99.9	30.920	0.085
03	21.29	0.0225	0.0017	16.618	22.7	0.000	100.0	30.977	0.074
02	21.32	0.0235	0.0100	36.382	21.7	0.001	100.0	31.010	0.072
10	21.43	0.0221	0.3156	17.734	23.1	0.000	99.6	31.039	0.070
09	21.43	0.0222	0.2011	11.059	23.0	0.001	99.7	31.098	0.087
<b>Mean age ± 2s</b>	n=15	MSWD=2.89		23.2	±1.9			30.861	0.090

**CA-13 sa**, B1:162, single crystal sanidine, J=0.0008136±0.09%, D=1.0068±0.00134, NM-162, Lab#=53882

11	20.99	0.0224	0.2164	9.845	22.8	0.000	99.7	30.47	0.15
01	21.27	0.0219	0.5859	12.129	23.3	0.001	99.2	30.71	0.13
08	21.42	0.0226	1.053	12.342	22.6	0.001	98.6	30.718	0.080
21	21.20	0.0204	0.2543	17.955	25.1	0.001	99.7	30.741	0.070
14	22.12	0.0225	3.345	17.743	22.7	0.001	95.5	30.757	0.084
12	21.17	0.0198	0.0757	6.495	25.7	0.000	99.9	30.78	0.11
10	21.23	0.0216	0.1906	7.264	23.6	0.000	99.7	30.810	0.097
02	21.24	0.0214	0.2148	12.614	23.8	0.000	99.7	30.826	0.074
07	21.26	0.0214	0.2295	12.836	23.8	0.000	99.7	30.840	0.085
09	21.18	0.0198	-0.0765	12.084	25.8	0.001	100.1	30.856	0.087
04	21.37	0.0221	0.5784	11.949	23.1	0.001	99.2	30.856	0.085
05	21.25	0.0215	0.1435	11.497	23.8	0.001	99.8	30.867	0.099

06	21.32	0.0220	0.3393	10.638	23.2	0.001	99.5	30.88	0.12
22	21.28	0.0222	0.1873	22.434	23.0	0.000	99.7	30.885	0.057
13	21.36	0.0209	0.1858	6.792	24.4	0.001	99.8	31.01	0.11
15	21.39	0.0240	0.2365	13.787	21.3	0.001	99.7	31.030	0.084
03	21.35	0.0222	-0.1634	5.635	23.0	0.001	100.2	31.14	0.10
<b>Mean age ± 2s</b>	n=16	MSWD=1.56		23.6	±2.3			30.851	0.080

**CA-17 sa, B3:162, single crystal sanidine, J=0.0008121±0.09%, D=1.0068±0.00134, NM-162, Lab#=53884**

01	21.12	0.0226	0.5327	10.448	22.6	0.001	99.3	30.454	0.081
12	21.25	0.0216	0.9567	3.542	23.6	0.001	98.7	30.47	0.14
15	21.04	0.0187	-0.0005	7.061	27.3	0.001	100.0	30.57	0.14
04	21.19	0.0224	0.2306	18.126	22.7	0.001	99.7	30.693	0.078
13	21.20	0.0208	0.2398	16.664	24.5	0.001	99.7	30.702	0.089
05	21.17	0.0214	0.0839	12.627	23.9	0.001	99.9	30.72	0.11
06	21.17	0.0200	0.0563	16.174	25.5	0.001	99.9	30.735	0.061
10	21.24	0.0229	0.2536	9.145	22.3	0.001	99.7	30.757	0.093
03	21.27	0.0220	0.3051	10.914	23.2	0.001	99.6	30.765	0.080
02	21.32	0.0223	0.4661	27.125	22.8	0.000	99.4	30.78	0.11
07	21.26	0.0217	0.2434	17.359	23.5	0.001	99.7	30.782	0.064
14	21.27	0.0209	0.2434	25.608	24.4	0.001	99.7	30.79	0.11
09	21.25	0.0216	0.1385	8.411	23.6	0.000	99.8	30.810	0.091
11	21.35	0.0192	0.3485	8.857	26.6	0.001	99.5	30.866	0.097
08	21.48	0.0209	0.2326	10.826	24.5	0.000	99.7	31.106	0.084
<b>Mean age ± 2s</b>	n=15	MSWD=2.87		24.1	±2.9			30.748	0.096

**H02-79 sa, B11:162, single crystal sanidine, J=0.0008153±0.09%, D=1.00677±0.00112, NM-162, Lab#=53892**

22	21.43	1.688	6.383	0.950	0.30	0.003	91.9	28.76	0.41
02	21.24	1.579	3.701	1.267	0.32	0.000	95.5	29.61	0.42
11	20.91	0.0132	0.9632	14.611	38.5	0.000	98.6	30.09	0.13
10	21.37	0.0137	1.252	8.165	37.4	0.001	98.3	30.634	0.088
15	21.15	0.0140	0.5115	24.623	36.4	0.001	99.3	30.635	0.072
03	21.40	1.637	1.847	0.755	0.31	0.000	98.1	30.64	0.58
26	21.28	0.0128	0.7998	14.067	39.8	0.001	98.9	30.694	0.097
08	21.25	0.0116	0.6030	22.171	43.9	0.001	99.2	30.729	0.071
09	21.21	0.0131	0.4556	14.187	39.1	0.000	99.4	30.739	0.074
07	21.22	0.0117	0.4779	28.054	43.6	0.000	99.3	30.741	0.070
12	21.28	0.0137	0.6158	12.416	37.1	0.000	99.2	30.778	0.078
24	21.30	0.0138	0.6502	18.817	36.9	0.001	99.1	30.787	0.063
04	21.32	0.0134	0.5810	15.971	38.0	0.001	99.2	30.84	0.10

21	21.34	0.0134	0.6164	19.542	38.0	0.001	99.2	30.863	0.076
25	21.24	0.0124	0.0514	10.838	41.3	0.001	99.9	30.960	0.079
23	21.33	0.0142	0.3271	9.740	36.0	0.000	99.6	30.970	0.086
05	21.38	0.0122	0.4483	11.283	41.7	0.001	99.4	30.980	0.088
06	22.04	1.915	3.289	1.340	0.27	0.000	96.3	31.00	0.30
14	21.31	0.0127	0.1087	23.061	40.1	0.001	99.9	31.037	0.075
13	21.85	1.691	2.419	1.617	0.30	0.000	97.4	31.06	0.31
01	21.41	2.015	0.6298	1.437	0.25	0.001	99.9	31.23	0.35
<b>Mean age ± 2s</b>	n=14	MSWD=2.72		39.2	±5.2			30.81	0.09

**H02-52 sa**, C9:162, single crystal sanidine, J=0.0008165±0.09%, D=1.00741±0.00068, NM-162, Lab#=53906

15	21.21	1.924	2.936	0.947	0.27	0.002	96.7	29.99	0.55
07	21.26	0.0131	0.7741	21.710	39.0	0.000	98.9	30.73	0.13
13	21.09	0.0136	0.1377	10.535	37.4	0.001	99.8	30.739	0.076
12	21.14	0.0140	0.2417	10.006	36.4	0.000	99.7	30.78	0.15
22	21.11	0.0124	0.1227	13.903	41.2	0.001	99.8	30.786	0.077
01	21.17	0.0127	0.2803	12.600	40.2	0.000	99.6	30.796	0.073
04	21.13	0.0132	-0.0395	23.414	38.5	0.001	100.1	30.877	0.049
11	21.33	0.0154	0.6094	9.873	33.2	0.001	99.2	30.894	0.066
08	21.19	0.0127	0.0754	27.789	40.1	0.000	99.9	30.911	0.068
09	21.84	0.0135	2.277	18.480	37.9	0.001	96.9	30.913	0.068
21	21.23	0.0130	0.1844	25.243	39.2	0.001	99.7	30.934	0.067
02	21.31	0.0137	0.3807	32.913	37.3	0.000	99.5	30.966	0.057
03	21.29	0.0128	0.2808	22.970	39.7	0.001	99.6	30.974	0.063
14	21.24	0.0136	0.0796	20.906	37.5	0.000	99.9	30.981	0.074
06	21.21	0.0099	-0.1465	11.496	51.6	0.000	100.2	31.047	0.073
05	21.31	0.0143	0.0503	12.234	35.7	0.001	99.9	31.103	0.068
10	21.33	2.359	-0.2466	0.831	0.22	0.000	101.3	31.58	0.56
<b>Mean age ± 2s</b>	n=15	MSWD=1.98		39.0	±8.0			30.915	0.077

**CA-11 sa**, A16:162, single crystal sanidine, J=0.0008129±0.09%, D=1.00647±0.00154, NM-162, Lab#=53881

10	24.60	1.951	18.29	1.199	0.26	0.000	78.7	28.20	0.50
07	34.56	1.669	50.95	3.310	0.31	0.001	56.8	28.60	0.39
13	21.59	1.723	5.359	1.659	0.30	0.002	93.3	29.34	0.31
14	26.27	1.567	19.76	2.486	0.33	0.001	78.3	29.94	0.30
23	21.54	1.686	3.567	1.670	0.30	0.000	95.8	30.04	0.39
26	21.39	1.753	2.670	1.610	0.29	0.001	97.0	30.21	0.32
01	22.46	1.468	6.185	2.288	0.35	0.001	92.4	30.21	0.27
24	21.13	0.0137	0.2654	33.449	37.2	0.001	99.6	30.614	0.093

06	21.21	0.0131	0.4673	31.307	39.0	0.001	99.4	30.642	0.084
09	21.23	0.0131	0.3984	20.506	38.8	0.001	99.5	30.695	0.079
16	21.14	0.0135	0.0693	11.220	37.8	0.001	99.9	30.706	0.092
12	21.35	0.0137	0.5201	7.137	37.4	0.001	99.3	30.828	0.091
15	21.32	0.0134	0.3754	15.630	38.0	0.001	99.5	30.839	0.075
04	21.37	0.0129	0.5301	10.380	39.4	0.001	99.3	30.84	0.10
08	21.29	0.0133	0.2468	20.346	38.5	0.001	99.7	30.856	0.088
25	21.33	0.0134	0.3630	12.791	38.1	0.001	99.5	30.864	0.084
03	21.30	0.0116	0.1778	30.899	44.1	0.001	99.8	30.892	0.071
17	21.37	0.0122	0.3879	30.937	41.7	0.000	99.5	30.909	0.086
11	24.68	1.567	11.99	2.768	0.33	0.000	86.2	30.95	0.36
02	21.50	0.0133	0.6873	26.618	38.4	0.001	99.1	30.967	0.093
21	21.32	0.0126	0.0496	26.428	40.5	0.001	99.9	30.976	0.067
22	21.36	0.0142	0.0826	10.388	35.9	0.001	99.9	31.020	0.087
05	21.52	1.809	0.2735	0.892	0.28	0.002	100.3	31.42	0.49
<b>Mean age ± 2s</b>		n=14	MSWD=2.20		38.9 ±4.1			30.84	0.09

**H02-58 sa**, C10:162, single crystal sanidine, J=0.0008171±0.09%, D=1.00741±0.00068, NM-162, Lab#=53907

01	21.33	0.0085	0.6357	4.904	59.7	0.001	99.1	30.896	0.077
04	21.37	0.0077	0.6400	3.036	65.9	0.001	99.1	30.96	0.10
12	21.41	0.0103	0.6342	3.621	49.4	0.001	99.1	31.02	0.11
09	21.32	0.0040	0.2883	3.237	127.4	0.001	99.6	31.03	0.11
02	21.38	0.0089	0.4809	7.470	57.5	0.001	99.3	31.039	0.069
15	21.30	0.0118	0.1764	5.563	43.3	0.001	99.8	31.052	0.077
10	21.44	0.0051	0.6253	2.156	100.4	0.000	99.1	31.07	0.13
11	21.44	0.0092	0.5863	5.522	55.2	0.001	99.2	31.079	0.084
14	21.42	0.0055	0.4646	4.023	93.2	0.001	99.4	31.11	0.10
13	21.52	0.0093	0.6771	4.976	55.0	0.001	99.1	31.167	0.090
08	21.42	0.0054	0.2823	7.071	95.2	0.000	99.6	31.180	0.069
21	21.95	0.0100	2.015	23.900	51.1	0.001	97.3	31.211	0.063
07	21.61	0.0092	0.6393	1.970	55.5	0.001	99.1	31.30	0.16
03	21.43	0.0080	0.0179	4.098	63.8	0.001	100.0	31.307	0.079
05	21.43	0.0077	-0.0556	5.365	66.5	0.001	100.1	31.340	0.074
06	22.35	0.0136	1.004	2.858	37.6	0.001	98.7	32.22	0.17
<b>Mean age ± 2s</b>		n=15	MSWD=2.42		69.3 ±47.4			31.13	0.09

**CA-10 sa**, A15:162, single crystal sanidine, J=0.000813±0.09%, D=1.00647±0.00154, NM-162, Lab#=53880

01	21.25	0.0044	0.3224	20.509	115.4	0.000	99.6	30.767	0.088
05	21.52	0.0052	1.071	6.557	98.9	0.001	98.5	30.83	0.12

15	21.39	0.0104	0.6027	20.472	49.3	0.000	99.2	30.843	0.068
09	21.39	0.0054	0.5887	18.510	94.8	0.001	99.2	30.849	0.062
13	21.54	0.0059	0.9017	18.576	86.7	0.000	98.8	30.935	0.077
08	21.42	0.0051	0.4522	19.989	99.2	0.000	99.4	30.957	0.066
07	21.46	0.0054	0.5884	18.761	93.8	0.001	99.2	30.96	0.13
04	21.43	0.0046	0.4632	11.231	110.5	0.001	99.4	30.964	0.094
06	22.00	0.0054	2.390	5.666	94.4	0.001	96.8	30.97	0.11
11	21.50	0.0046	0.5455	7.663	110.3	0.001	99.3	31.037	0.098
12	21.44	0.0047	0.2980	7.369	108.2	0.001	99.6	31.05	0.11
02	21.51	0.0063	0.4687	13.101	80.4	0.001	99.4	31.08	0.22
03	21.42	0.0042	0.1357	9.595	120.9	0.000	99.8	31.086	0.099
16	21.51	0.0063	0.4298	13.236	81.3	0.001	99.4	31.097	0.088
14	21.50	0.0050	0.3605	7.273	101.5	0.000	99.5	31.11	0.12
10	21.62	0.0051	0.7392	9.994	100.9	0.001	99.0	31.124	0.091
17	21.74	0.0056	0.6587	7.967	90.9	0.001	99.1	31.322	0.094
<b>Mean age ± 2s</b>	n=17	MSWD=2.32		96.3	±33.2			30.973	0.089

**H02-78 sa**, B10:162, single crystal sanidine, J=0.0008147±0.09%, D=1.00677±0.00112, NM-162, Lab#=53891

01	21.11	0.0103	0.0748	28.222	49.7	0.001	99.9	30.73	0.25
05	21.40	0.0093	0.4554	20.655	54.8	0.001	99.4	30.991	0.069
07	21.30	0.0109	0.0901	19.590	47.0	0.000	99.9	31.002	0.074
13	21.36	0.0105	0.2445	15.400	48.7	0.001	99.7	31.021	0.069
11	21.36	0.0130	0.1922	20.657	39.1	0.001	99.7	31.04	0.13
06	21.31	0.0095	0.0357	16.507	53.7	0.000	100.0	31.043	0.077
09	21.37	0.0097	0.1754	13.597	52.8	0.000	99.8	31.067	0.081
02	21.45	0.0103	0.3414	29.650	49.5	0.000	99.5	31.111	0.077
14	21.38	0.0104	0.0578	15.267	49.0	0.001	99.9	31.123	0.087
08	21.41	0.0157	0.0816	23.243	32.4	0.000	99.9	31.155	0.070
04	21.49	0.0116	0.2891	9.600	43.9	0.000	99.6	31.185	0.082
12	21.46	0.0114	0.1778	14.216	44.7	0.000	99.8	31.196	0.085
03	21.51	0.0144	0.3094	16.688	35.5	0.001	99.6	31.211	0.098
21	21.43	0.0100	0.0113	11.157	50.8	0.001	100.0	31.215	0.082
10	21.49	0.0108	0.1076	12.702	47.1	0.001	99.9	31.268	0.086
15	21.59	0.0096	0.2165	9.245	53.0	0.001	99.7	31.36	0.11
<b>Mean age ± 2s</b>	n=15	MSWD=1.56		46.8	±13.4			31.118	0.078

**NH02-18**, A5:162, single xtal san, J=0.000813±0.09%, D=1.00693±0.00111, NM-162, Lab#=53870

15	25.38	-0.7227	36.09	0.005	-	0.012	57.7	21.4	68.8
02	21.26	0.0117	0.2606	15.873	43.7	0.001	99.6	30.805	0.084

04	21.25	0.0118	0.1894	7.948	43.3	0.001	99.7	30.82	0.12
06	21.35	0.0108	0.1517	23.677	47.4	0.001	99.8	30.979	0.078
03	21.32	0.0104	0.0486	42.151	49.1	0.001	99.9	30.98	0.12
07	21.35	0.0103	0.1180	46.891	49.8	0.001	99.8	30.989	0.073
08	21.37	0.0109	0.1116	24.586	46.8	0.000	99.9	31.029	0.084
09	21.43	0.0117	0.3068	23.639	43.5	0.001	99.6	31.038	0.080
13	21.40	0.0105	0.0453	23.240	48.6	0.001	99.9	31.093	0.078
05	21.55	0.0108	0.5691	10.954	47.3	0.001	99.2	31.098	0.098
01	21.43	0.0104	0.0829	18.453	48.9	0.001	99.9	31.133	0.089
11	21.48	0.0125	0.1349	22.869	40.8	0.000	99.8	31.171	0.079
10	21.47	0.0106	0.0306	30.458	48.2	0.001	100.0	31.213	0.081
12	21.62	0.0110	0.3576	9.881	46.3	0.001	99.5	31.28	0.10
14	21.54	0.0108	0.0612	13.554	47.2	0.001	99.9	31.293	0.075
<b>Mean age ± 2s</b>		n=14	MSWD=2.79		46.5 ±5.3			31.075	0.096

**H02-59 sa**, C11:162, single crystal sanidine, J=0.0008178±0.09%, D=1.00623±0.00094, NM-162, Lab#=53908

12	22.31	3.093	6.199	0.445	0.16	0.001	92.9	30.39	0.74
24	21.10	0.0109	0.1378	14.691	46.6	0.001	99.8	30.803	0.082
22	21.22	0.0105	0.4410	24.178	48.7	0.001	99.4	30.847	0.068
08	21.40	0.0101	0.7918	8.927	50.4	0.001	98.9	30.967	0.061
15	21.52	0.0141	1.138	2.504	36.2	0.001	98.4	30.98	0.15
13	21.28	0.0101	0.2831	10.776	50.5	0.001	99.6	30.999	0.065
03	21.31	0.0093	0.2036	17.716	55.0	0.001	99.7	31.086	0.050
07	21.46	0.0166	0.7007	9.633	30.7	0.001	99.0	31.095	0.055
06	21.40	0.0115	0.4748	14.868	44.4	0.001	99.3	31.104	0.069
09	21.34	0.0100	0.1879	10.867	50.8	0.001	99.7	31.127	0.060
04	21.30	0.0107	0.0253	17.286	47.8	0.001	100.0	31.149	0.050
23	21.28	0.0099	-0.0614	6.872	51.3	0.001	100.1	31.157	0.081
21	21.40	0.0119	0.2438	12.779	43.0	0.000	99.7	31.189	0.077
14	21.45	0.0101	0.3870	10.530	50.4	0.001	99.5	31.214	0.059
05	21.37	0.0106	0.0270	11.256	48.3	0.001	100.0	31.249	0.055
02	21.48	0.0115	0.3422	6.207	44.5	0.001	99.5	31.275	0.075
01	21.60	0.0106	0.4841	14.424	48.0	0.001	99.3	31.376	0.078
11	21.94	0.0101	0.7128	7.988	50.3	0.001	99.0	31.78	0.13
10	23.70	2.322	1.934	0.427	0.22	0.000	98.4	34.14	0.56
<b>Mean age ± 2s</b>		n=16	MSWD=4.42		46.7 ±12.1			31.11	0.09

**Notes:**

Isotopic ratios corrected for blank, radioactive decay, and mass discrimination, not corrected for interfering reactions.

Ages calculated relative to FC-1 Fish Canyon Tuff sanidine interlaboratory standard at 27.84 Ma.

Errors quoted for individual analyses include analytical error only, without interfering reaction or J uncertainties.

Mean age is weighted mean age of Taylor (1982). Mean age error is weighted error of the mean (Taylor, 1982), multiplied by the root of the MSWD where MSWD>1, and also incorporates uncertainty in J factors and irradiation correction uncertainties.

Decay constants and isotopic abundances after Steiger and Jaeger (1977).

# symbol preceding sample ID denotes analyses excluded from mean age calculations.

Discrimination =  $1.00693 \pm 0.00111$

Correction factors:

$(^{39}\text{Ar}/^{37}\text{Ar})_{\text{Ca}} = 0.0007 \pm 2\text{e-}05$

$(^{36}\text{Ar}/^{37}\text{Ar})_{\text{Ca}} = 0.00028 \pm 5\text{e-}06$

$(^{38}\text{Ar}/^{39}\text{Ar})_{\text{K}} = 0.01077$

$(^{40}\text{Ar}/^{39}\text{Ar})_{\text{K}} = 0.0002 \pm 0.0003$

NM-148

ID	$^{40}\text{Ar}/^{39}\text{Ar}$	$^{37}\text{Ar}/^{39}\text{Ar}$	$^{36}\text{Ar}/^{39}\text{Ar}$ ( $\times 10^{-3}$ )	$^{39}\text{Ar}_{\text{K}}$ ( $\times 10^{-15}$ mol)	K/Ca	Cl/K ( $\times 10^{-3}$ )	% $^{40}\text{Ar}^*$	Age (Ma)	$\pm 2s$ (Ma)
<b>HOI-61 sa</b> , A7:148, single crystal sanidine, J=0.0007553 $\pm$ 0.10%, D=1.00712 $\pm$ 0.00131, NM-148, Lab#=52876									
02#	21.79	1.535	4.669	0.181	0.33	-0.500	94.3	27.80	0.66
17	21.48	0.0092	1.209	2.01	55.2	0.67	98.3	28.56	0.39
03	21.21	0.0090	0.2650	3.74	56.9	0.66	99.6	28.56	0.38
06	21.17	0.0089	0.0935	2.07	57.3	0.65	99.9	28.58	0.39
09	21.21	0.0090	0.1706	1.02	56.6	0.65	99.8	28.60	0.40
05	21.17	0.0094	0.0157	3.15	54.2	0.68	100.0	28.61	0.39
11	21.17	0.0089	-0.0014	1.85	57.1	0.71	100.0	28.63	0.38
04	21.25	0.0090	0.2047	1.71	56.9	0.58	99.7	28.64	0.39
01	21.26	0.0090	0.2280	3.15	56.5	0.59	99.7	28.65	0.38
14	21.36	0.0090	0.4797	1.84	56.5	0.57	99.3	28.68	0.39
10	21.37	0.0077	0.5031	1.61	65.9	0.56	99.3	28.68	0.39
12	21.34	0.0088	0.3954	2.69	57.9	0.55	99.5	28.69	0.38
13	21.24	0.0089	0.0130	0.940	57.5	0.55	100.0	28.71	0.41
16	21.27	0.0083	0.0580	1.45	61.3	0.52	99.9	28.72	0.40
07	21.30	0.0093	0.0977	0.855	54.7	0.74	99.9	28.75	0.43
08	21.34	0.0084	0.0238	1.36	60.6	0.65	100.0	28.84	0.40
15	21.38	0.0093	-0.1239	0.644	55.0	0.61	100.2	28.95	0.41
<b>weighted mean <math>\pm</math> Taylor err</b>			n=16		57.5 $\pm$ 5.8			28.67	0.11

**HOI-184 sa**, A5:148, single crystal sanidine, J=0.0007547 $\pm$ 0.10%, D=1.00712 $\pm$ 0.00131, NM-148, Lab#=52874



09	22.32	0.0188	1.216	2.28	27.1	0.33	98.4	29.65	0.40
13	22.12	0.0162	0.3026	1.73	31.5	0.70	99.6	29.75	0.40
12	22.25	0.0191	0.4895	1.33	26.7	0.69	99.4	29.85	0.40
10	22.19	0.0169	0.3009	1.33	30.2	0.36	99.6	29.85	0.40
14	22.30	0.0185	0.5991	2.01	27.5	0.87	99.2	29.87	0.41
07	22.19	0.0151	0.1150	1.82	33.7	0.56	99.9	29.92	0.40
02	22.22	0.0190	0.2158	1.21	26.8	0.59	99.7	29.92	0.40
11	22.28	0.0187	0.3646	1.98	27.3	0.37	99.5	29.94	0.40
03	22.40	0.0176	0.7619	1.54	28.9	0.41	99.0	29.95	0.41
04	22.34	0.0178	0.4364	1.07	28.6	0.48	99.4	29.99	0.41
01	22.39	0.0179	0.5638	3.02	28.4	0.67	99.3	30.01	0.40
16	22.62	0.0166	1.332	1.77	30.7	0.74	98.3	30.02	0.41
05	22.37	0.0182	0.3393	4.49	28.1	0.64	99.6	30.07	0.40
15	22.47	0.0154	0.7006	3.46	33.1	0.45	99.1	30.07	0.40
06	22.26	0.0161	-0.0591	1.27	31.7	0.51	100.1	30.09	0.41
08	22.50	0.0181	0.4582	0.996	28.1	1.1	99.4	30.20	0.43
<b>weighted mean ± Taylor err</b>			n=16	29.3	±4.5			29.94	0.12

**F01-474 sa**, B15:NM-148, single crystal sanidine, J=0.0007578±0.10%, D=1.00712±0.00131, NM-148, Lab#=52900

08	22.19	0.0172	0.4753	2.38	29.6	0.63	99.4	29.90	0.40
14	22.32	0.0173	0.7633	1.34	29.6	0.86	99.0	29.96	0.41
01	22.38	0.0186	0.7517	0.735	27.5	1.1	99.0	30.04	0.43
12	22.27	0.0162	0.3786	1.20	31.4	0.41	99.5	30.05	0.42
11	22.54	0.0132	1.274	1.24	38.6	0.40	98.3	30.05	0.41
02	22.30	0.0163	0.4522	4.46	31.2	0.55	99.4	30.06	0.40
15	22.33	0.0169	0.4854	1.59	30.1	0.65	99.4	30.08	0.41
06	22.35	0.0142	0.4619	3.04	35.9	0.53	99.4	30.13	0.40
09	22.30	0.0164	0.2598	2.84	31.1	0.59	99.7	30.13	0.40
03	22.29	0.0178	0.2193	2.88	28.7	0.62	99.7	30.14	0.40
10	22.66	0.0153	1.397	1.45	33.3	0.75	98.2	30.16	0.41
07	22.31	0.0182	0.2240	1.06	28.0	0.78	99.7	30.17	0.42
05	22.66	0.0185	1.397	0.908	27.5	0.45	98.2	30.17	0.43
13	22.35	0.0158	0.2751	1.97	32.3	0.86	99.6	30.20	0.41
04	22.23	0.0188	-0.5911	0.608	27.1	0.46	100.8	30.37	0.44
<b>weighted mean ± Taylor err</b>			n=15	30.8	±6.5			30.10	0.12

**F01-457 sa**, C2:148, single crystal sanidine, J=0.0007496±0.10%, D=1.00712±0.00131, NM-148, Lab#=52903

01	22.85	0.0136	0.5547	1.63	37.5	0.36	99.3	30.43	0.43
02	22.98	0.0135	0.4032	1.26	37.7	0.66	99.5	30.66	0.42

11	22.95	0.0131	0.2716	1.01	38.9	0.75	99.7	30.66	0.43
13	23.02	0.0135	0.4143	1.58	37.9	0.68	99.5	30.70	0.42
05	23.00	0.0123	0.3175	2.05	41.6	0.59	99.6	30.72	0.42
07	22.92	0.0130	-0.0004	1.71	39.3	0.35	100.0	30.73	0.42
03	23.02	0.0125	0.2527	3.91	40.9	0.53	99.7	30.77	0.41
14	23.01	0.0136	0.2108	1.05	37.4	0.59	99.7	30.77	0.43
08	23.05	0.0131	0.3249	2.64	38.8	0.66	99.6	30.78	0.41
09	23.05	0.0131	0.2085	3.48	39.0	0.63	99.7	30.82	0.41
12	23.17	0.0127	0.5892	2.62	40.0	0.64	99.3	30.83	0.41
06	23.08	0.0124	0.1455	1.88	41.1	0.57	99.8	30.89	0.42
04	23.18	0.0116	0.3981	1.15	44.1	0.53	99.5	30.92	0.42
15#	23.04	1.801	-0.3786	0.161	0.28	-0.213	101.1	31.28	0.81
10#	22.85	2.224	-3.6178	0.065	0.23	-0.473	105.5	32.4	1.6
<b>weighted mean ± Taylor err</b>			n=13		39.6 ±3.9			30.75	0.13

**F01-458 sa**, C3:148, single crystal sanidine, J=0.0007494±0.10%, D=1.00712±0.00131, NM-148, Lab#=52904

13#	17.57	0.0113	0.9922	1.16	45.3	0.59	98.3	23.20	0.34
12	23.03	0.0087	0.0822	2.60	58.5	0.55	99.9	30.84	0.41
01	23.40	0.0053	1.323	1.29	96.5	0.50	98.3	30.85	0.44
14	23.27	0.0108	0.8163	2.49	47.2	0.60	99.0	30.87	0.41
11	23.15	0.0080	0.3864	3.32	63.5	0.49	99.5	30.88	0.41
06	23.35	0.0091	0.9092	2.81	56.3	0.59	98.9	30.94	0.42
15	23.16	0.0097	0.1857	4.72	52.9	0.46	99.8	30.97	0.41
03	23.23	0.0086	0.3728	2.05	59.1	0.38	99.5	30.99	0.42
10	23.22	0.0046	0.2983	2.67	112.0	0.47	99.6	31.01	0.41
09	23.26	0.0044	0.3409	2.28	117.0	0.51	99.6	31.04	0.42
04	23.15	0.0077	-0.0839	2.28	66.2	0.83	100.1	31.06	0.41
02	23.25	0.0045	0.2621	3.32	113.3	0.49	99.7	31.06	0.42
08	23.16	0.0079	-0.1838	1.26	64.3	0.73	100.2	31.12	0.43
05	23.13	0.0110	-0.3283	1.14	46.2	0.81	100.4	31.14	0.43
07	23.38	0.0080	0.2344	1.31	63.9	0.66	99.7	31.25	0.42
<b>weighted mean ± Taylor err</b>			n=14		72.6 ±50.9			31.00	0.13

Isotopic ratios corrected for blank, radioactive decay, and mass discrimination, not corrected for interfering reactions.

Individual analyses show analytical error only; mean age errors also include error in J and irradiation parameters.

Analyses in italics are excluded from mean age calculations.

Correction factors:

$$({}^{39}\text{Ar}/{}^{37}\text{Ar})_{\text{Ca}} = 0.00070 \pm 0.00002$$

$$({}^{36}\text{Ar}/{}^{37}\text{Ar})_{\text{Ca}} = 0.00028 \pm 0.00001$$

$$(^{38}\text{Ar}/^{39}\text{Ar})_{\text{K}} = 0.0108$$

$$(^{40}\text{Ar}/^{39}\text{Ar})_{\text{K}} = 0.0002 \pm 0.0003$$

NM-130

ID	$^{40}\text{Ar}/^{39}\text{Ar}$	$^{37}\text{Ar}/^{39}\text{Ar}$	$^{36}\text{Ar}/^{39}\text{Ar}$ ( $\times 10^{-3}$ )	$^{39}\text{Ar}_{\text{K}}$ ( $\times 10^{-15}$ mol)	K/Ca	Cl/K ( $\times 10^{-3}$ )	% $^{40}\text{Ar}^*$	Age (Ma)	$\pm 1\text{s}$ (Ma)
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**H00-104**, single crystal sanidine,  $J=0.000773332 \pm 0.10\%$ ,  $D=1.00276 \pm 0.000999999$ , NM-130, Lab#=51712

12	17.94	0.0182	1.172	3.49	28.1	0.26	98.1	24.388	0.077
13	17.85	0.0117	0.5378	5.43	43.8	0.16	99.1	24.511	0.060
10	17.91	0.0109	0.5676	11.4	46.8	0.22	99.1	24.593	0.050
11	17.97	0.0120	0.7086	4.89	42.6	0.16	98.8	24.617	0.066
08	18.05	0.0112	0.8236	15.1	45.7	0.40	98.7	24.672	0.054
06	17.89	0.0102	0.0946	13.3	50.1	0.40	99.8	24.748	0.052
02	18.00	0.0113	0.4577	9.13	45.2	0.35	99.3	24.750	0.064
15	18.00	0.0117	0.4537	4.62	43.8	0.25	99.3	24.759	0.077
09	18.00	0.0107	0.3362	13.0	47.6	0.14	99.5	24.804	0.055
07	17.97	0.0105	0.2208	9.31	48.4	0.30	99.6	24.806	0.052
04	18.01	0.0139	0.3602	8.53	36.7	0.32	99.4	24.814	0.058
01	17.96	0.0103	0.1140	11.0	49.4	0.15	99.8	24.842	0.061
05	17.96	0.0114	0.0703	15.0	44.7	0.21	99.9	24.862	0.050
14	17.96	0.0134	-0.0916	2.82	38.1	0.45	100.2	24.925	0.095
03	18.10	0.0112	0.2478	8.82	45.4	0.32	99.6	24.979	0.055
<b>weighted mean <math>\pm</math> Taylor err</b>			n=15		43.8	$\pm 5.7$		24.745	0.029

**86DJ107**, C11, NM-130, single crystal sanidine,  $J=0.000769386 \pm 0.10\%$ ,  $D=1.00769 \pm 0.00119$ , NM-130, Lab#=51742

01	63.51	0.0774	372.3	0.013	6.6	-47.194	-73.2	-65.7	23.3
07	146.2	0.0024	506.6	0.034	209.7	12.5	-2.4	-4.9	14.0
16	207.2	0.0000	668.2	0.012	-	15.9	4.7	13.5	35.5
04	18.81	0.0127	2.721	8.30	40.1	0.24	95.7	24.819	0.069
02	18.72	0.0134	2.344	6.20	38.0	0.46	96.3	24.851	0.062
14	18.76	0.0114	2.327	3.22	44.9	0.68	96.3	24.919	0.090
13	18.57	0.0089	1.619	4.61	57.4	0.24	97.4	24.939	0.068
03	18.58	0.0088	1.648	16.5	57.9	0.22	97.4	24.940	0.067
10	18.63	0.0094	1.807	7.96	54.0	0.15	97.1	24.944	0.056
05	18.45	0.0092	1.201	4.67	55.4	0.24	98.1	24.951	0.075
06	18.48	0.0117	1.178	7.35	43.5	0.15	98.1	24.995	0.061
12	18.38	0.0106	0.7866	4.80	48.2	0.100	98.7	25.022	0.078
11	18.30	0.0099	0.4809	4.28	51.6	0.48	99.2	25.031	0.069

17	18.51	0.0205	0.7821	2.43	24.9	0.15	98.8	25.20	0.10
15	18.32	0.0184	0.0461	4.91	27.8	0.32	99.9	25.229	0.066
08	-51.1918	0.0000	-450.9780	-0.002	-	59.0	%-160.3	110.5	147.3
<b>weighted mean ± Taylor err</b>			n=10	49.1	±7.2			24.939	0.033

**H00-78**, single crystal sanidine, J=0.000774328±0.10%, D=1.00399±0.00123, NM-130, Lab#=51701

06	18.30	0.0440	1.336	1.49	11.6	0.48	97.9	24.84	0.17
02	18.37	0.0662	1.245	2.91	7.7	0.18	98.0	24.98	0.11
13	18.10	0.0428	0.2523	3.09	11.9	0.74	99.6	25.010	0.098
01	18.15	0.0521	0.3518	5.75	9.8	0.12	99.4	25.044	0.077
04	18.24	0.0588	0.6609	7.09	8.7	0.45	99.0	25.047	0.060
10	18.23	0.0925	0.5299	4.16	5.5	0.040	99.2	25.084	0.080
03	18.18	0.0442	0.2927	6.72	11.5	0.57	99.5	25.106	0.057
08	18.15	0.0578	0.1960	4.78	8.8	0.13	99.7	25.107	0.073
14	18.14	0.0722	0.1542	2.43	7.1	0.50	99.8	25.11	0.11
09	18.29	0.0425	0.5833	3.39	12.0	0.20	99.1	25.135	0.088
15	18.19	0.0480	0.2505	4.92	10.6	0.42	99.6	25.139	0.074
11	18.19	0.1174	-0.0323	1.83	4.3	0.42	100.1	25.26	0.15
12	18.23	0.0381	-0.0233	2.82	13.4	0.56	100.1	25.30	0.11
07	18.16	0.0550	-0.3506	1.64	9.3	-0.365	100.6	25.34	0.14
05	18.45	0.0546	0.0925	1.66	9.3	1.0	99.9	25.56	0.13
<b>weighted mean ± Taylor err</b>			n=15	9.4	±2.5			25.113	0.034

**H00-101**, single crystal sanidine, J=0.00077468±0.10%, D=1.00399±0.00123, NM-130, Lab#=51707

11	20.78	1.644	6.442	0.227	0.31	2.1	91.5	26.42	0.74
17	22.06	1.662	9.658	0.466	0.31	-1.138	87.7	26.87	0.40
14	21.34	1.650	4.779	0.274	0.31	0.80	94.0	27.87	0.59
10	20.86	1.838	2.788	0.449	0.28	1.1	96.8	28.05	0.45
08	20.76	0.0112	0.7811	4.68	45.5	0.43	98.9	28.468	0.077
09	20.73	0.0125	0.6725	3.38	40.7	0.17	99.0	28.469	0.086
12	21.60	1.706	4.184	0.445	0.30	1.8	94.9	28.48	0.39
15	20.63	0.0114	0.3146	4.63	44.7	0.48	99.6	28.477	0.075
03	20.32	1.680	-0.2257	0.424	0.30	1.8	101.0	28.51	0.49
16	20.71	0.0099	0.5096	11.8	51.8	0.008	99.3	28.515	0.065
01	21.01	0.0107	1.316	3.34	47.9	0.18	98.2	28.599	0.087
13	20.86	0.0109	0.7135	2.66	46.6	0.35	99.0	28.632	0.095
05	20.78	0.0078	0.2897	5.01	65.7	0.21	99.6	28.691	0.070
02	20.97	0.0105	0.9033	9.08	48.7	0.33	98.7	28.702	0.063
18	20.87	0.0106	0.5500	4.81	48.1	-0.029	99.2	28.707	0.087

04	20.81	0.0098	0.2852	6.70	51.8	0.077	99.6	28.735	0.075
07	20.95	0.0105	0.5585	5.43	48.4	0.37	99.2	28.821	0.084
06	20.98	1.830	1.074	0.554	0.28	0.88	99.2	28.90	0.39
<b>weighted mean ± Taylor err</b>			n=11	49.1	±6.3			28.619	0.037

**F99-762**, single xtal sanidine and plag, J=0.000774282±0.10%, D=1.00399±0.00123, NM-130, Lab#=51708

27	20.79	5.295	10.89	0.078	0.096	0.97	86.6	25.1	2.7
17	21.76	5.300	10.87	0.300	0.096	0.13	87.2	26.45	0.72
18	21.19	3.928	8.296	0.339	0.13	0.95	90.0	26.53	0.65
29	21.05	6.059	7.245	0.313	0.084	1.8	92.2	27.05	0.69
15	23.70	5.259	15.62	0.410	0.097	0.86	82.4	27.19	0.51
25	23.33	9.963	15.81	0.202	0.051	1.6	83.5	27.2	1.2
07	21.36	5.152	6.278	0.345	0.099	-0.946	93.3	27.75	0.72
06	22.32	6.809	9.258	0.164	0.075	2.6	90.3	28.1	1.2
08	21.75	6.665	7.206	0.241	0.077	-0.115	92.7	28.12	0.96
04	21.08	3.642	3.285	0.476	0.14	0.55	96.8	28.37	0.48
26	24.94	5.943	16.76	0.250	0.086	3.0	82.1	28.53	0.93
01	21.35	4.467	3.947	0.423	0.11	1.6	96.3	28.60	0.51
24	20.55	6.159	1.720	0.212	0.083	-0.115	100.0	28.6	1.0
31	20.96	0.5864	0.6839	2.42	0.87	0.70	99.3	28.85	0.11
16	21.12	0.0165	0.8457	3.07	30.9	0.24	98.8	28.926	0.096
02	30.04	8.782	34.01	0.166	0.058	2.6	69.0	28.9	1.4
05	21.43	3.734	3.099	0.438	0.14	-1.934	97.2	28.95	0.48
30	21.19	0.0189	0.8390	2.70	27.1	0.58	98.8	29.02	0.11
19	21.29	0.0181	1.003	3.22	28.3	0.10	98.6	29.088	0.098
32	21.07	1.363	0.7033	1.09	0.37	0.35	99.5	29.10	0.19
10	21.13	0.0168	0.2415	3.75	30.4	0.086	99.7	29.178	0.094
09	21.15	0.0195	0.2852	1.08	26.2	0.93	99.6	29.19	0.23
28	20.49	3.147	-0.8947	0.281	0.16	1.2	102.6	29.19	0.81
13	21.28	6.317	2.846	0.398	0.081	1.1	98.5	29.20	0.59
23	20.90	2.598	-0.0265	0.388	0.20	0.52	101.1	29.33	0.66
14	21.65	2.942	1.968	0.609	0.17	0.80	98.4	29.60	0.40
03	21.16	4.038	0.4649	0.282	0.13	-1.433	100.9	29.69	0.71
20	19.62	3.292	-7.0079	0.169	0.15	0.69	111.9	30.5	1.2
22	27.37	6.171	18.79	0.214	0.083	1.7	81.6	31.1	1.0
11	20.83	6.038	-6.1771	0.205	0.085	0.76	111.2	32.2	1.0
21	20.43	6.819	-7.6329	0.087	0.075	2.0	113.8	32.4	2.2
12	26.92	6.851	14.19	0.248	0.074	2.0	86.5	32.45	0.95
<b>weighted mean ± Taylor err</b>			n=5	28.6	±2.1			29.061	0.056

**NR-6**, single crystal sanidine,  $J=0.000773447\pm 0.10\%$ ,  $D=1.00276\pm 0.000999999$ , NM-130, Lab#=51714

07	22.54	0.0174	5.184	11.3	29.4	0.37	93.2	29.082	0.080
03	24.65	0.0176	11.94	4.00	29.0	0.42	85.7	29.24	0.11
11	24.54	0.0178	11.30	7.79	28.7	0.39	86.4	29.345	0.091
10	22.42	0.0192	4.107	5.09	26.6	0.061	94.6	29.351	0.090
13	21.86	0.0185	1.914	3.85	27.6	0.50	97.4	29.467	0.081
01	22.61	0.0165	4.261	10.3	30.9	0.21	94.4	29.553	0.063
12	21.72	0.0193	1.017	9.83	26.4	0.20	98.6	29.652	0.060
15	22.54	0.0183	3.677	4.89	27.9	0.39	95.2	29.686	0.088
06	23.15	0.0198	5.752	7.26	25.8	0.38	92.7	29.686	0.092
02	21.82	0.0183	1.193	6.75	27.9	0.49	98.4	29.706	0.071
09	23.41	0.0182	6.551	9.03	28.1	0.33	91.7	29.724	0.078
04	22.09	0.0175	1.895	6.33	29.2	0.44	97.5	29.800	0.082
14	22.91	0.0193	4.616	5.09	26.4	0.32	94.1	29.815	0.089
05	22.21	0.0177	2.229	14.0	28.8	0.34	97.0	29.821	0.069
08	22.84	0.0168	4.338	6.15	30.4	0.11	94.4	29.834	0.080
<b>weighted mean <math>\pm</math> Taylor err</b>			n=12		28.0	$\pm 1.6$		29.675	0.037

**00-323**, single crystal sanidine,  $J=0.00077334\pm 0.10\%$ ,  $D=1.00276\pm 0.000999999$ , NM-130, Lab#=51713

06	21.67	0.0160	0.6076	3.53	31.8	-0.136	99.2	29.738	0.082
09	21.64	0.0183	0.4521	9.71	27.9	0.25	99.4	29.764	0.062
08	21.64	0.0187	0.3767	7.42	27.3	0.27	99.5	29.787	0.059
05	21.64	0.0178	0.3323	8.04	28.6	0.21	99.6	29.810	0.070
04	21.59	0.0196	0.1420	6.88	26.1	0.24	99.8	29.820	0.065
07	21.63	0.0186	0.2672	11.3	27.4	0.20	99.6	29.826	0.061
13	21.91	0.0185	1.183	5.16	27.6	0.42	98.4	29.841	0.073
02	21.71	0.0172	0.4123	10.8	29.7	0.31	99.4	29.873	0.060
03	21.78	0.0177	0.5985	11.8	28.9	0.37	99.2	29.891	0.076
10	21.71	0.0174	0.2805	6.47	29.3	0.56	99.6	29.932	0.068
01	21.84	0.0192	0.6861	8.96	26.6	0.35	99.1	29.938	0.061
15	21.72	0.0182	0.1821	12.5	28.0	0.24	99.8	29.982	0.062
12	21.75	0.0174	0.1443	6.36	29.4	0.14	99.8	30.030	0.075
14	21.75	0.0157	-0.0255	7.06	32.5	0.22	100.0	30.101	0.075
11	21.87	0.0166	0.0537	6.26	30.7	0.21	99.9	30.231	0.066
<b>weighted mean <math>\pm</math> Taylor err</b>			n=15		28.8	$\pm 1.8$		29.902	0.034

**NR-3**, single crystal sanidine,  $J=0.000773992\pm 0.10\%$ ,  $D=1.00399\pm 0.00123$ , NM-130, Lab#=51709

15	21.99	0.0169	1.085	7.41	30.3	0.35	98.5	30.005	0.075
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03	22.74	0.0162	3.487	9.26	31.5	0.25	95.5	30.065	0.076
11	22.49	0.0151	2.519	6.95	33.8	0.44	96.7	30.117	0.086
02	22.05	0.0166	1.017	7.30	30.7	0.47	98.6	30.122	0.080
12	22.33	0.0178	1.785	8.48	28.7	0.33	97.6	30.185	0.074
07	21.87	0.0166	0.1437	6.94	30.8	0.21	99.8	30.227	0.072
08	22.03	0.0160	0.6220	7.72	31.9	0.44	99.2	30.256	0.075
01	21.99	0.0165	0.4367	11.7	30.9	0.23	99.4	30.274	0.083
13	22.09	0.0165	0.6958	10.3	31.0	0.27	99.1	30.304	0.067
05	22.00	0.0153	0.3962	9.17	33.3	0.32	99.5	30.305	0.070
06	22.03	0.0146	0.4042	6.52	35.0	0.55	99.5	30.333	0.073
10	22.21	0.0160	1.004	9.83	31.9	0.31	98.7	30.342	0.069
14	22.07	0.0152	0.5191	6.94	33.6	0.45	99.3	30.345	0.075
09	22.06	0.0171	0.3410	4.52	29.9	0.45	99.5	30.408	0.083
04	21.97	0.0142	-0.1169	5.04	35.8	0.57	100.2	30.462	0.079
<b>weighted mean ± Taylor err</b>			n=15		31.9 ±2.0			30.253	0.036

**NR-1**, single crystal sanidine, J=0.000774988±0.10%, D=1.00399±0.00123, NM-130, Lab#=51704

05	22.44	0.0115	0.4390	7.30	44.5	0.45	99.4	30.931	0.069
03	22.54	0.0134	0.6147	22.0	38.0	0.24	99.2	30.994	0.068
09	22.69	0.0142	1.070	13.1	35.9	0.24	98.6	31.014	0.071
02	22.47	0.0116	0.2615	8.81	44.0	0.16	99.7	31.038	0.071
08	22.54	0.0102	0.4390	4.86	50.1	0.46	99.4	31.069	0.074
06	22.58	0.0101	0.5538	6.59	50.6	0.27	99.3	31.069	0.071
14	22.71	0.0103	0.9698	9.87	49.4	0.054	98.7	31.079	0.067
01	22.58	0.0115	0.5141	10.6	44.2	0.21	99.3	31.092	0.066
15	22.85	0.0108	1.382	17.6	47.4	0.24	98.2	31.114	0.063
07	22.60	0.0102	0.4339	5.77	50.1	0.046	99.4	31.144	0.080
04	22.59	0.0108	0.3116	10.9	47.2	0.35	99.6	31.182	0.066
13	22.49	0.0096	-0.0586	3.95	53.4	0.38	100.1	31.194	0.085
12	22.62	0.0105	0.3009	5.08	48.5	0.19	99.6	31.236	0.084
10	22.60	0.0103	0.1710	10.0	49.6	0.19	99.8	31.260	0.066
11	22.66	0.0100	0.2872	5.61	51.2	0.22	99.6	31.296	0.074
<b>weighted mean ± Taylor err</b>			n=15		46.9 ±4.9			31.109	0.036

Isotopic ratios corrected for blank, radioactive decay, and mass discrimination, not corrected for interfering reactions.

Individual analyses show analytical error only; mean age errors also include error in J and irradiation parameters.

Analyses in italics are excluded from mean age calculations.

Correction factors:

$$({}^{39}\text{Ar}/{}^{37}\text{Ar})_{\text{Ca}} = 0.00089 \pm 0.00003$$

$$(^{36}\text{Ar}/^{37}\text{Ar})_{\text{Ca}} = 0.00028 \pm 0.00001$$

$$(^{38}\text{Ar}/^{39}\text{Ar})_{\text{K}} = 0.0119$$

$$(^{40}\text{Ar}/^{39}\text{Ar})_{\text{K}} = 0.0002 \pm 0.0003$$

NM-101

ID	$^{40}\text{Ar}/^{39}\text{Ar}$	$^{37}\text{Ar}/^{39}\text{Ar}$	$^{36}\text{Ar}/^{39}\text{Ar}$ ( $\times 10^{-3}$ )	$^{39}\text{Ar}_{\text{K}}$ ( $\times 10^{-15}$ mol)	K/Ca	Cl/K	% $^{40}\text{Ar}^*$	Age (Ma)	$\pm 1s$ (Ma)
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**MC-15**, B6, NM-101, Sanidine, single xtl, J=0.000764415 $\pm$ 0.10%, D=1.00361 $\pm$ 0.00157, NM-101, Lab#=9938

14	210.4	0.0000	2142.0	0.000	-	-0.218	%-200.8	-703.7	11060.8
03	18.04	0.0107	0.1824	5.23	47.6	0.000	99.7	24.642	0.052
06	18.07	0.0117	0.2319	2.88	43.8	0.000	99.6	24.661	0.052
13	18.05	0.0113	0.1256	1.57	45.0	0.000	99.8	24.667	0.068
15	18.05	0.0110	0.1007	2.91	46.4	0.000	99.8	24.683	0.060
12	18.09	0.0121	0.1785	3.61	42.3	0.000	99.7	24.709	0.062
02	18.08	0.0104	0.0968	4.57	49.2	0.000	99.8	24.718	0.053
04	18.08	0.0105	0.1255	5.48	48.5	0.000	99.8	24.719	0.053
01	18.11	0.0120	0.2054	4.81	42.6	0.000	99.7	24.724	0.052
11	18.09	0.0093	0.1144	4.70	54.8	0.000	99.8	24.737	0.047
08	18.11	0.0110	0.1631	4.78	46.4	0.000	99.7	24.741	0.052
05	18.16	0.0116	0.3150	2.20	44.0	0.000	99.5	24.742	0.061
09	18.12	0.0110	-0.0481	2.06	46.5	0.000	100.1	24.841	0.059
10	18.15	0.0105	-0.0262	2.45	48.8	0.000	100.0	24.871	0.053
07	18.24	0.0099	0.2254	2.09	51.7	0.000	99.6	24.889	0.064
<b>weighted mean <math>\pm</math> Taylor err</b>			n=14	47.0	$\pm 3.5$			24.736	0.030

**MC-12**, B5:101, single crystal sanidine, J=0.000765094 $\pm$ 0.10%, D=1.00361 $\pm$ 0.00157, NM-101, Lab#=9937

16	12.31	0.2081	16.83	0.005	2.5	-0.003	59.7	10.1	6.6
10	18.21	0.0103	0.6676	1.46	49.5	0.001	98.9	24.689	0.060
12	18.34	0.0123	0.9210	1.31	41.4	0.000	98.5	24.765	0.065
06	18.25	0.0171	0.5294	2.06	29.8	0.000	99.1	24.808	0.058
03	18.32	0.0111	0.7011	1.11	46.1	0.000	98.9	24.833	0.078
02	18.43	0.0114	1.015	6.63	44.6	0.000	98.4	24.852	0.049
01	18.37	0.0132	0.7888	6.72	38.7	0.000	98.7	24.864	0.049
07	18.27	0.0106	0.3657	1.64	48.1	0.000	99.4	24.901	0.064
04	18.35	0.0172	0.5413	2.91	29.7	0.000	99.1	24.941	0.057
08	18.29	0.0156	0.2962	2.37	32.7	0.000	99.5	24.952	0.055
05	18.56	0.0243	1.129	5.85	21.0	0.000	98.2	24.991	0.055
11	18.59	0.0102	1.227	4.64	49.9	0.000	98.1	24.993	0.056



09	18.31	0.0099	0.2547	3.59	51.6	0.000	99.6	24.996	0.054
14	18.39	0.0283	0.5368	4.26	18.0	0.000	99.1	24.996	0.055
13	18.37	0.0155	0.4080	1.46	33.0	0.001	99.3	25.018	0.066
15	18.37	0.0221	0.2286	2.43	23.1	0.000	99.6	25.086	0.063
<b>weighted mean ± Taylor err</b>			n=15	37.1 ±11.3				<b>24.914</b>	0.030

**MC-16, B7, NM-101, Sanidine, single xtl, J=0.00076376±0.10%, D=1.00361±0.00157, NM-101, Lab#=9939**

01	18.23	0.0147	0.4990	1.32	34.6	0.000	99.2	24.750	0.062
06	18.20	0.0121	0.3571	1.11	42.2	0.000	99.4	24.760	0.071
02	18.24	0.0121	0.4113	3.59	42.0	0.000	99.3	24.799	0.058
04	18.25	0.0139	0.3565	2.37	36.8	0.000	99.4	24.829	0.062
13	18.27	0.0156	0.3947	2.61	32.8	0.000	99.4	24.839	0.056
09	18.24	0.0095	0.2476	2.45	53.9	0.000	99.6	24.867	0.057
12	18.27	0.0107	0.2810	3.36	47.8	0.000	99.5	24.887	0.048
08	18.46	0.0188	0.9164	3.61	27.2	0.000	98.5	24.893	0.055
03	18.34	0.0164	0.4847	4.81	31.0	0.000	99.2	24.908	0.058
07	18.30	0.0246	0.3133	5.23	20.7	0.000	99.5	24.916	0.051
15	18.25	0.0225	0.0592	2.80	22.6	0.000	99.9	24.954	0.052
11	18.31	0.0248	0.1588	3.59	20.5	0.000	99.8	24.998	0.050
10	18.35	0.0201	0.2150	6.48	25.4	0.000	99.7	25.029	0.058
05	18.46	0.0126	0.5600	1.38	40.3	0.000	99.1	25.030	0.067
14	18.47	0.0150	0.4299	1.42	33.9	0.000	99.3	25.106	0.063
<b>weighted mean ± Taylor err</b>			n=15	34.1 ±9.9				<b>24.907</b>	0.030

**MC-10, B4:101, single crystal sanidine, J=0.000765979±0.10%, D=1.00361±0.00157, NM-101, Lab#=9936**

04	18.19	0.0423	0.4616	1.29	12.1	0.000	99.3	24.785	0.067
14	18.43	0.0556	0.9889	0.864	9.2	0.000	98.4	24.898	0.078
13	18.38	0.0866	0.5658	1.25	5.9	0.000	99.1	25.002	0.068
15	18.36	0.0809	0.4186	1.14	6.3	0.000	99.4	25.030	0.071
12	18.98	0.0982	2.435	1.18	5.2	0.000	96.2	25.065	0.086
05	18.55	0.0967	1.008	1.74	5.3	0.000	98.4	25.065	0.067
08	18.95	0.0509	2.277	2.69	10.0	0.000	96.5	25.090	0.062
09	18.67	0.0386	1.290	1.50	13.2	0.001	98.0	25.107	0.064
07	18.45	0.0521	0.5194	3.46	9.8	0.000	99.2	25.109	0.056
01	18.47	0.0526	0.5515	2.91	9.7	0.000	99.1	25.130	0.062
11	19.67	0.0498	4.583	3.34	10.2	0.000	93.1	25.135	0.064
10	18.48	0.0440	0.5226	2.50	11.6	0.000	99.2	25.156	0.055
06	18.39	0.0566	0.2027	0.971	9.0	0.000	99.7	25.165	0.074
03	18.59	0.0601	0.8581	3.80	8.5	0.000	98.7	25.176	0.057

02	19.04	0.0518	1.936	2.03	9.9	0.001	97.0	25.342	0.075
<b>weighted mean ± Taylor err</b>			n=15	9.1	±2.4			<b>25.090</b>	0.030

MC-6, B3:101, single crystal sanidine, J=0.000766376±0.10%, D=1.00361±0.00157, NM-101, Lab#=9935

10	22.15	4.103	19.73	0.028	0.12	0.005	75.1	22.9	1.3
31	17.54	4.726	3.523	0.046	0.11	0.000	96.1	23.24	0.75
11	22.47	4.609	16.20	0.031	0.11	0.003	80.3	24.8	1.2
06	23.06	5.022	14.69	0.020	0.10	-0.001	82.9	26.3	2.2
14	22.39	5.085	10.82	0.017	0.10	0.004	87.5	27.0	2.2
28	20.72	3.676	4.250	0.041	0.14	-0.002	95.3	27.17	0.82
09	20.67	3.254	3.854	0.055	0.16	0.003	95.7	27.21	0.64
32	20.65	2.112	1.778	0.143	0.24	0.000	98.2	27.87	0.29
12	21.23	4.104	3.513	0.130	0.12	0.002	96.6	28.21	0.35
30	21.00	4.234	2.755	0.037	0.12	-0.003	97.7	28.22	0.94
02	21.38	3.734	3.567	0.077	0.14	-0.001	96.4	28.35	0.50
04	22.16	2.449	5.589	0.144	0.21	0.002	93.4	28.44	0.33
15	21.73	3.367	4.108	0.043	0.15	-0.001	95.6	28.56	0.88
21	27.73	3.175	23.92	0.174	0.16	0.001	75.4	28.73	0.38
03	21.32	3.169	2.249	0.074	0.16	-0.001	98.0	28.73	0.54
25	21.32	3.250	2.120	0.079	0.16	0.001	98.2	28.79	0.39
26	21.15	0.0172	0.2584	0.865	29.6	0.000	99.6	28.903	0.081
13	21.23	0.0176	0.5060	1.33	28.9	0.000	99.3	28.917	0.074
01	21.32	0.0181	0.4426	4.85	28.2	0.000	99.4	29.059	0.065
27	21.46	0.0199	0.3048	0.605	25.6	0.000	99.6	29.308	0.100
23	21.37	4.096	0.4423	0.070	0.12	0.001	100.9	29.64	0.64
29	21.28	4.209	-0.8010	0.065	0.12	-0.001	102.6	30.03	0.50
22	21.44	4.301	-0.9577	0.099	0.12	0.000	102.9	30.33	0.46
16	22.13	2.852	0.3643	0.055	0.18	0.000	100.5	30.56	0.66
05	21.60	5.280	-0.9086	0.038	0.097	0.001	103.1	30.6	1.1
08	21.73	4.071	-2.6482	0.086	0.13	0.000	105.0	31.37	0.54
07	22.25	5.002	-2.7061	0.041	0.10	-0.004	105.3	32.2	1.1
17	20.86	5.166	-9.4114	0.031	0.099	-0.003	115.2	33.0	1.6
24	21.34	2.563	-9.6345	0.039	0.20	-0.003	114.3	33.46	0.88
<b>weighted mean ± Taylor err</b>			n=22	5.2	±11.1			28.987	0.225
<b>weighted mean ± Taylor err</b>			n=4	28.1	±1.7			<b>29.022</b>	0.050

MC-2, B2:101, single crystal sanidine, J=0.00076656±0.10%, D=1.00361±0.00157, NM-101, Lab#=9934

14	21.83	0.0038	3.308	0.055	134.7	0.005	95.5	28.61	0.76
10	21.62	0.0199	0.3017	3.13	25.7	0.000	99.6	29.541	0.059

13	21.74	0.0210	0.5341	3.64	24.3	0.000	99.3	29.599	0.076
07	21.68	0.0202	0.1588	3.25	25.2	0.000	99.8	29.670	0.068
08	21.72	0.0176	0.3139	1.36	29.0	0.000	99.6	29.672	0.080
01	21.77	0.0187	0.4226	2.32	27.2	0.000	99.4	29.692	0.068
05	21.72	0.0203	0.2244	3.71	25.2	0.000	99.7	29.701	0.064
15	21.90	0.0202	0.7448	5.10	25.3	0.000	99.0	29.740	0.075
06	21.77	0.0209	0.2417	4.10	24.4	0.000	99.7	29.758	0.067
12	21.91	0.0201	0.7111	1.62	25.4	0.000	99.0	29.766	0.075
11	21.83	0.0209	0.4063	2.90	24.4	0.001	99.5	29.783	0.061
02	21.80	0.0203	0.2891	1.97	25.1	0.000	99.6	29.789	0.067
03	21.95	0.0206	0.7876	5.71	24.8	0.000	98.9	29.790	0.079
09	22.00	0.0210	0.8913	6.88	24.3	0.000	98.8	29.813	0.064
04	21.85	0.0185	0.1357	7.02	27.6	0.000	99.8	29.916	0.065
<b>weighted mean ± Taylor err</b>			n=14		25.6 ±1.4			<b>29.730</b>	0.036

Isotopic ratios corrected for blank, radioactive decay, and mass discrimination, not corrected for interfering reactions.

Individual analyses show analytical error only; mean age errors also include error in J and irradiation parameters.

Analyses in italics are excluded from mean age calculations.

Correction factors:

$$(^{39}\text{Ar}/^{37}\text{Ar})_{\text{Ca}} = 0.00070 \pm 0.00005$$

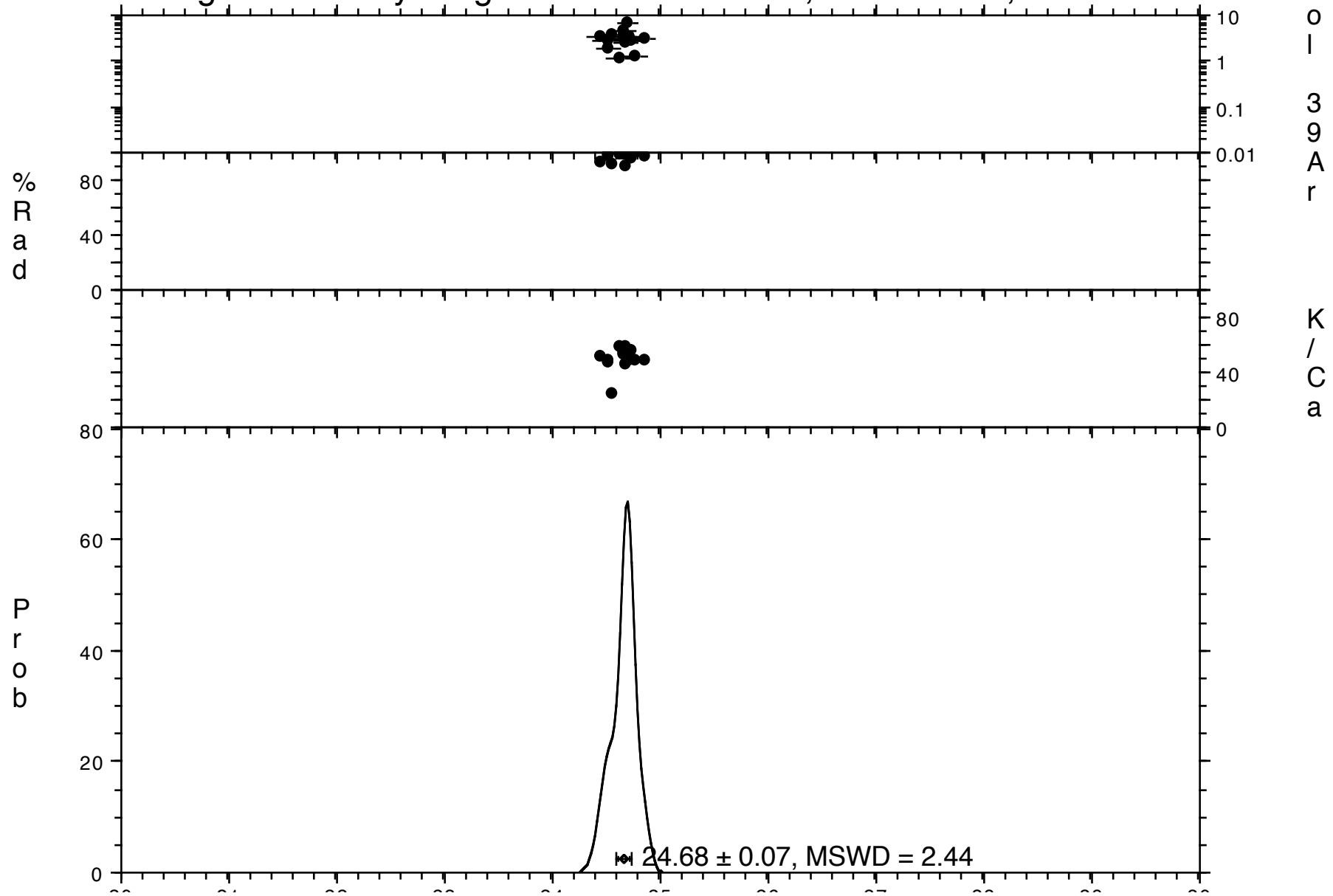
$$(^{36}\text{Ar}/^{37}\text{Ar})_{\text{Ca}} = 0.00026 \pm 0.00002$$

$$(^{38}\text{Ar}/^{39}\text{Ar})_{\text{K}} = 0.0119$$

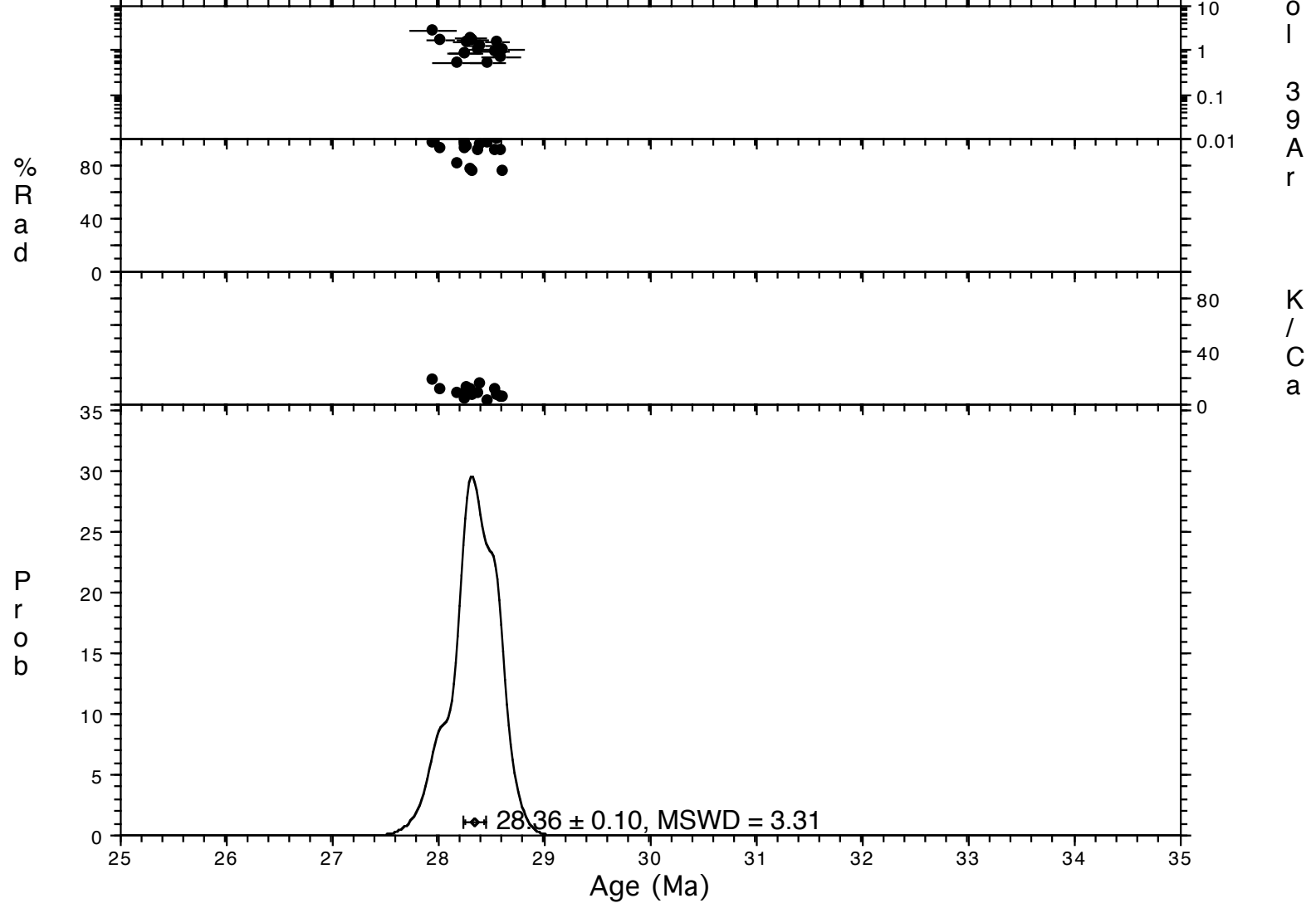
$$(^{40}\text{Ar}/^{39}\text{Ar})_{\text{K}} = 0.0002 \pm 0.0003$$


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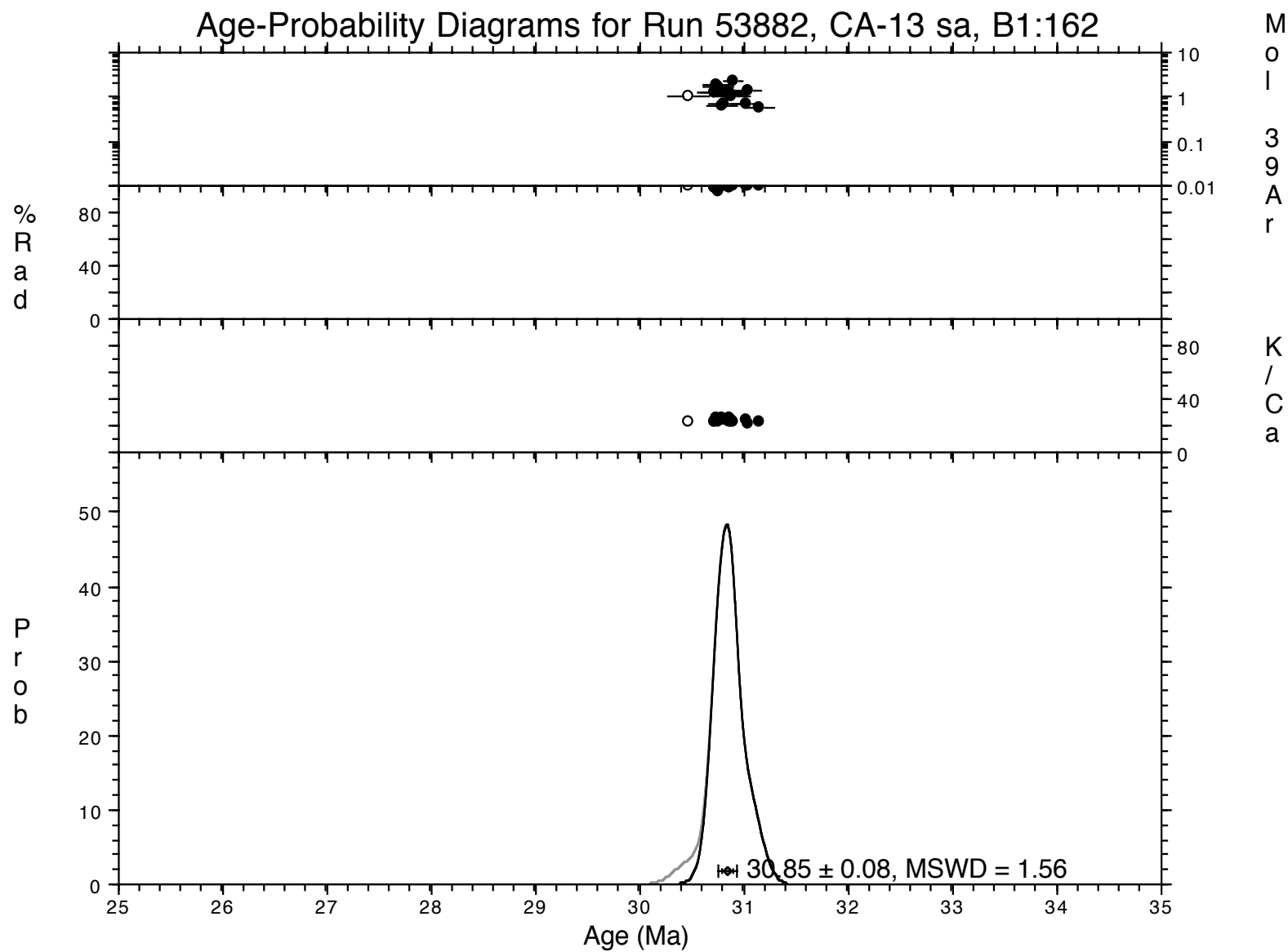
# Age-Probability Diagrams for Run 53896, H02-165 sa, B15:162



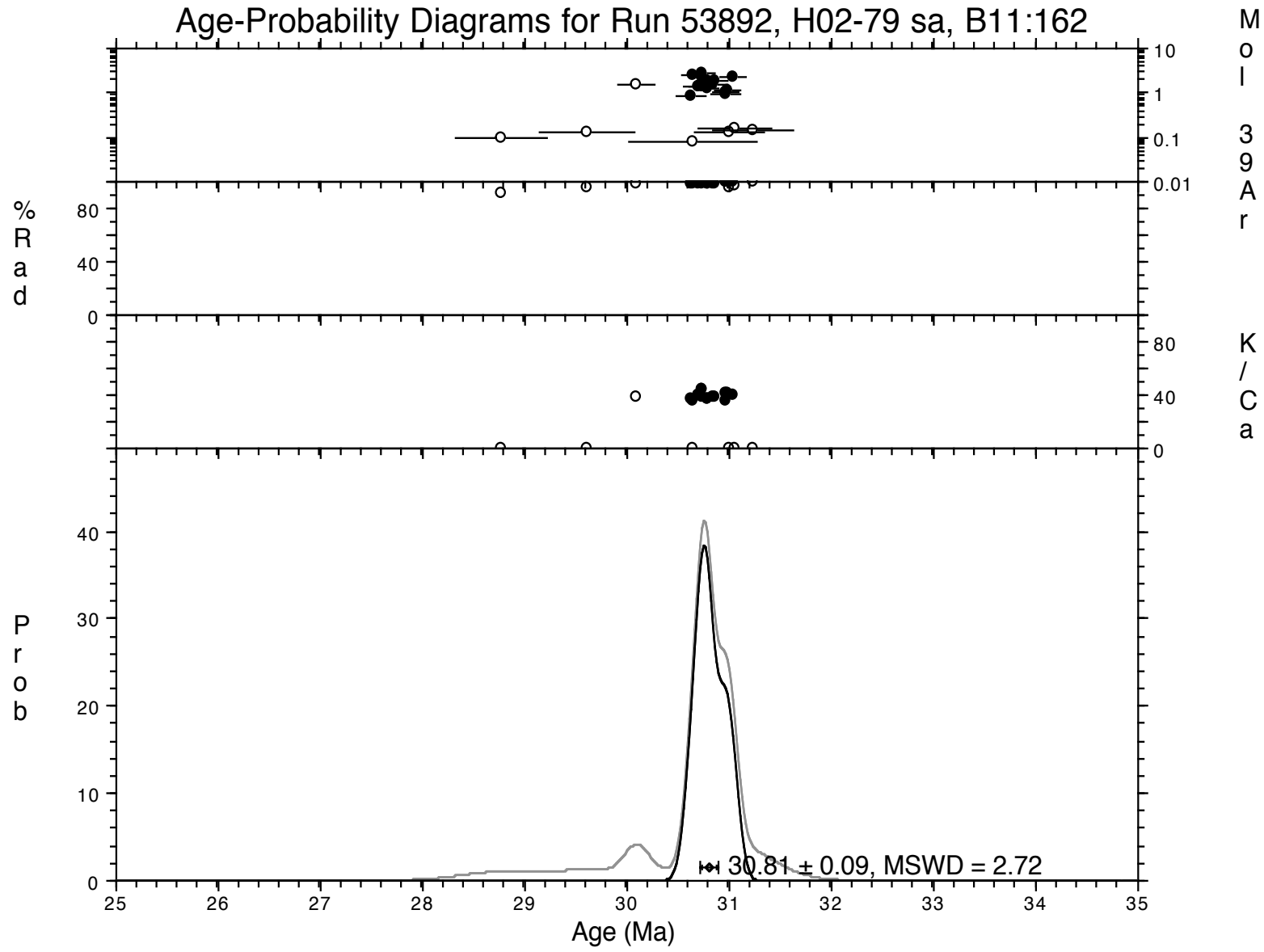
# Age-Probability Diagrams for Run 53903, H02-11 sa, C6:162



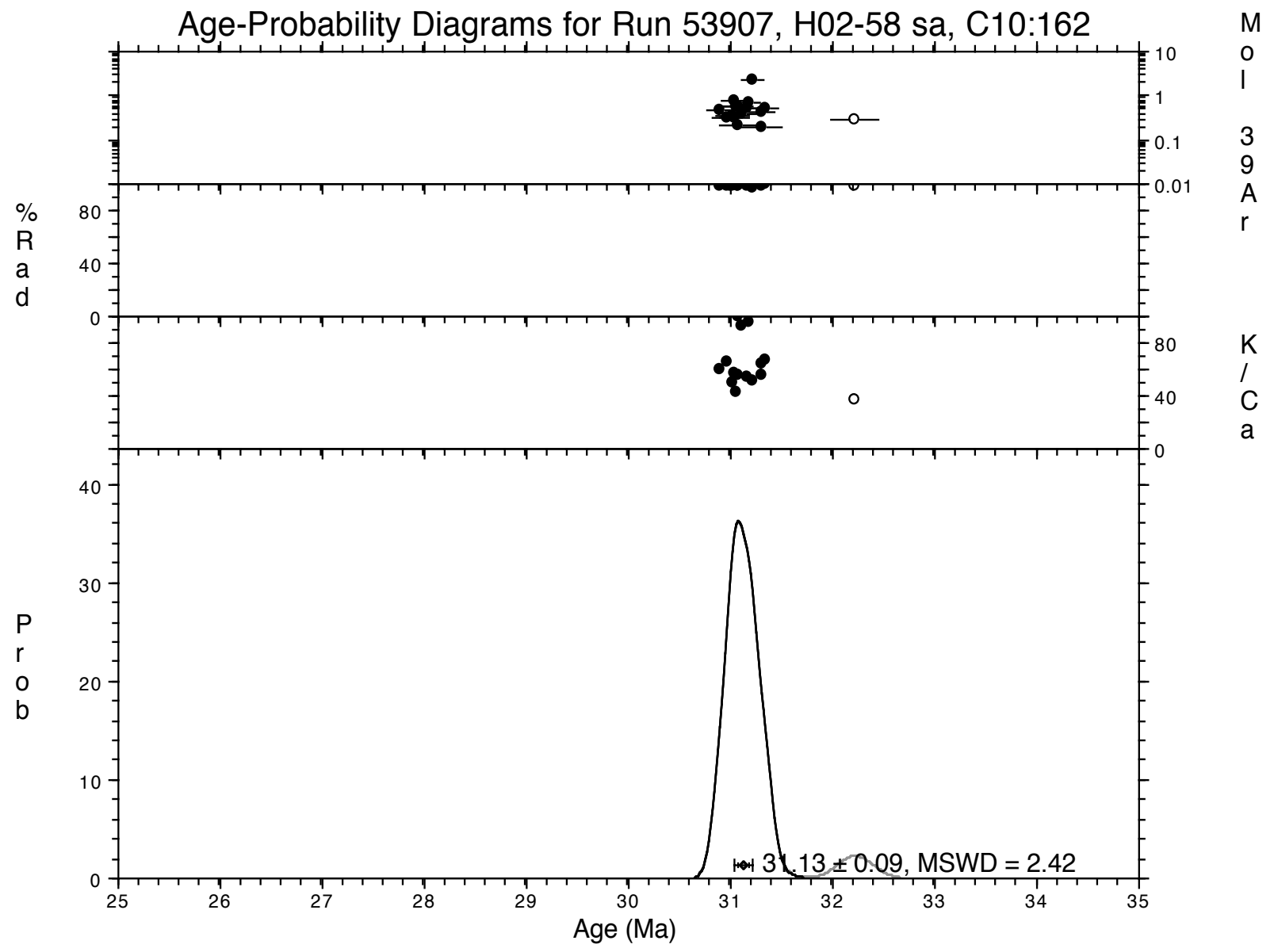
# Age-Probability Diagrams for Run 53882, CA-13 sa, B1:162



# Age-Probability Diagrams for Run 53892, H02-79 sa, B11:162

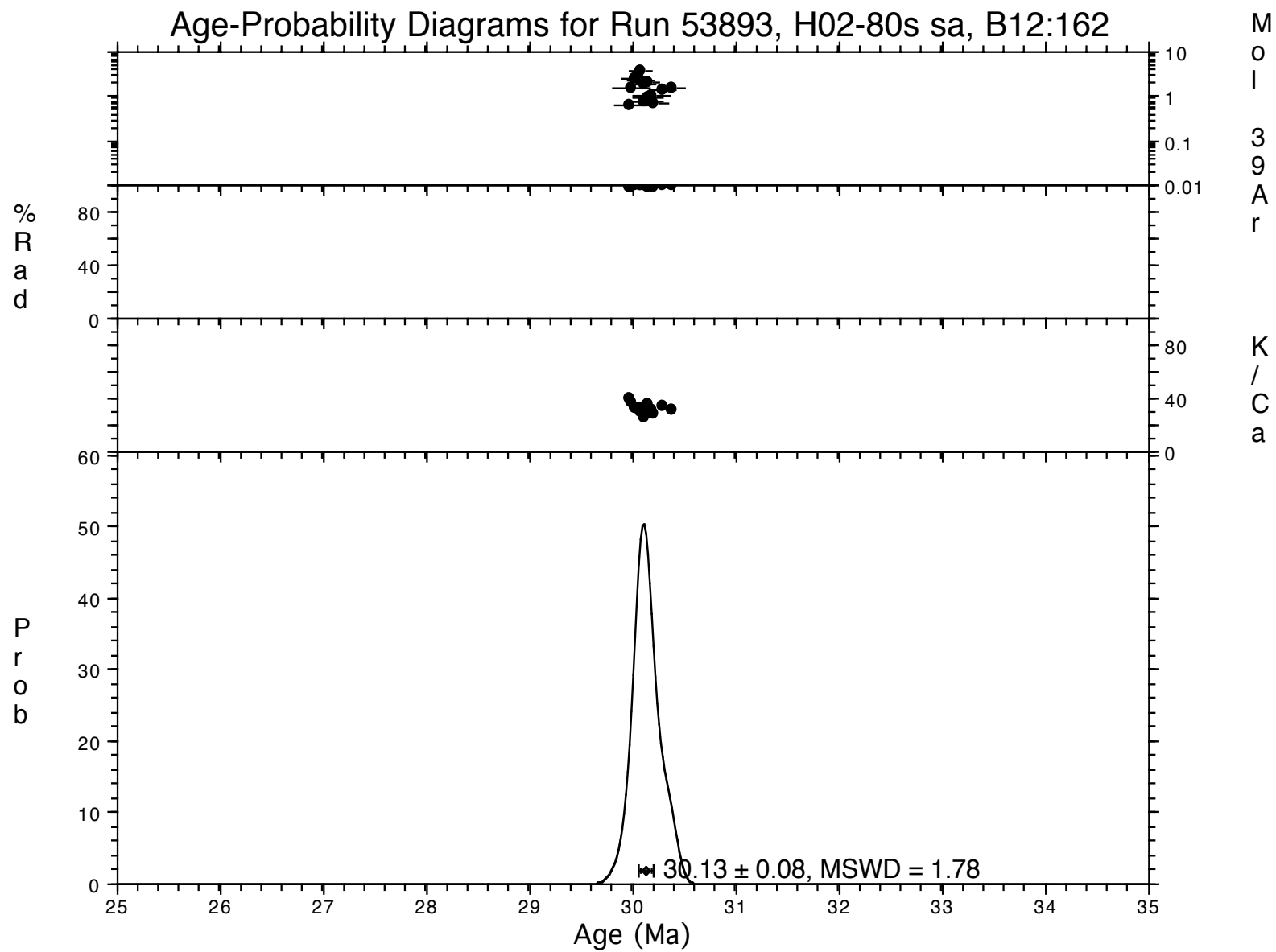


# Age-Probability Diagrams for Run 53907, H02-58 sa, C10:162

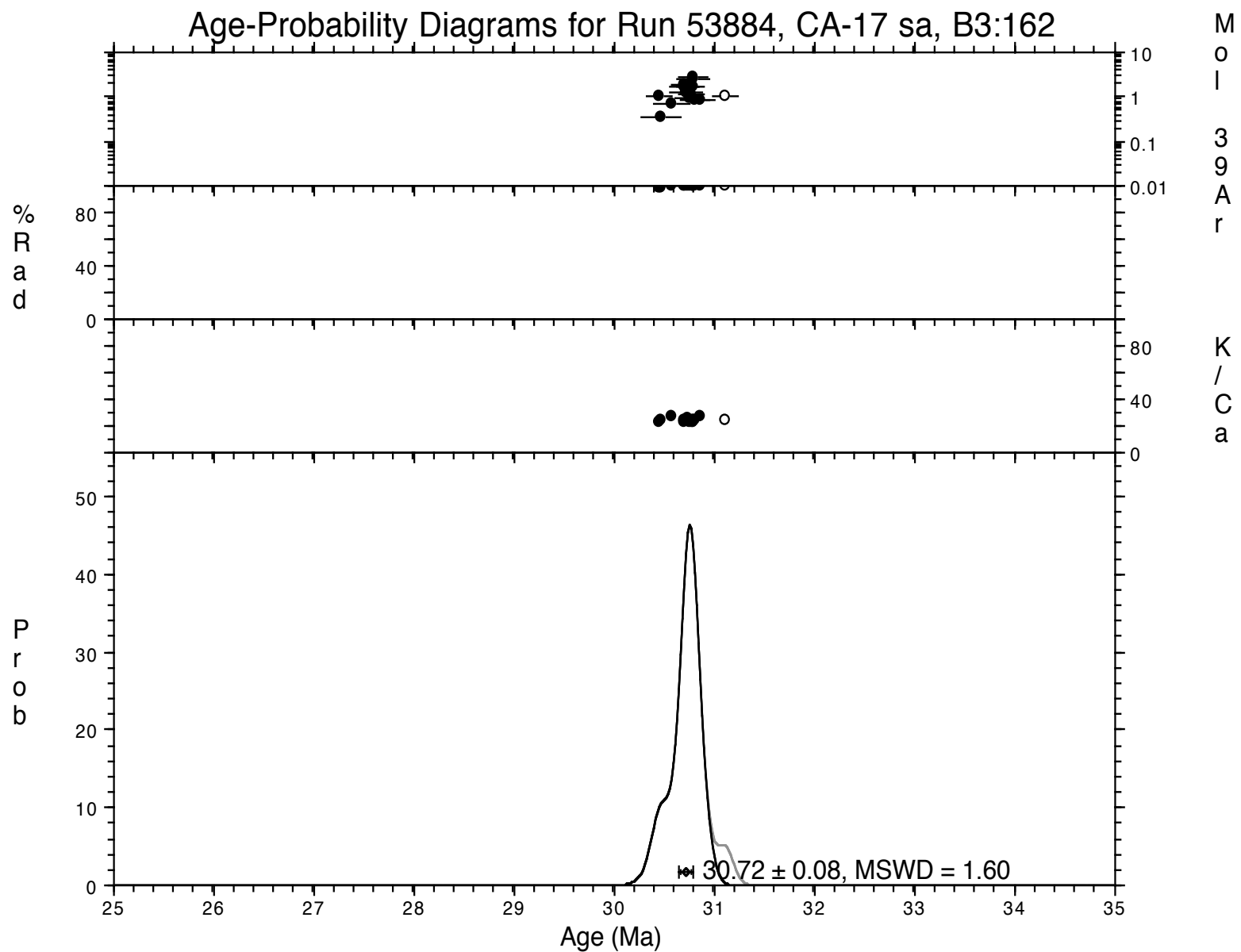




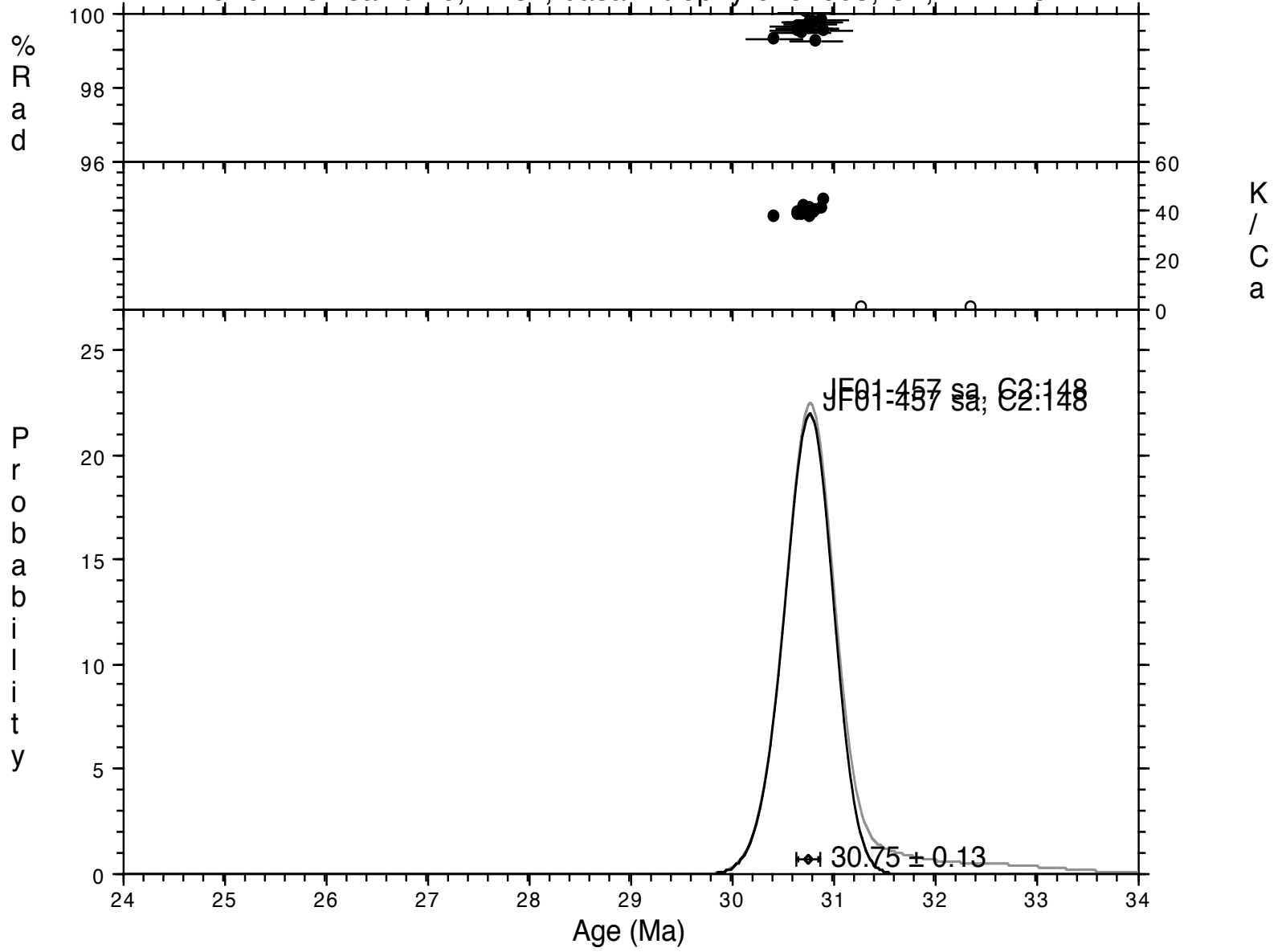
# Age-Probability Diagrams for Run 53893, H02-80s sa, B12:162



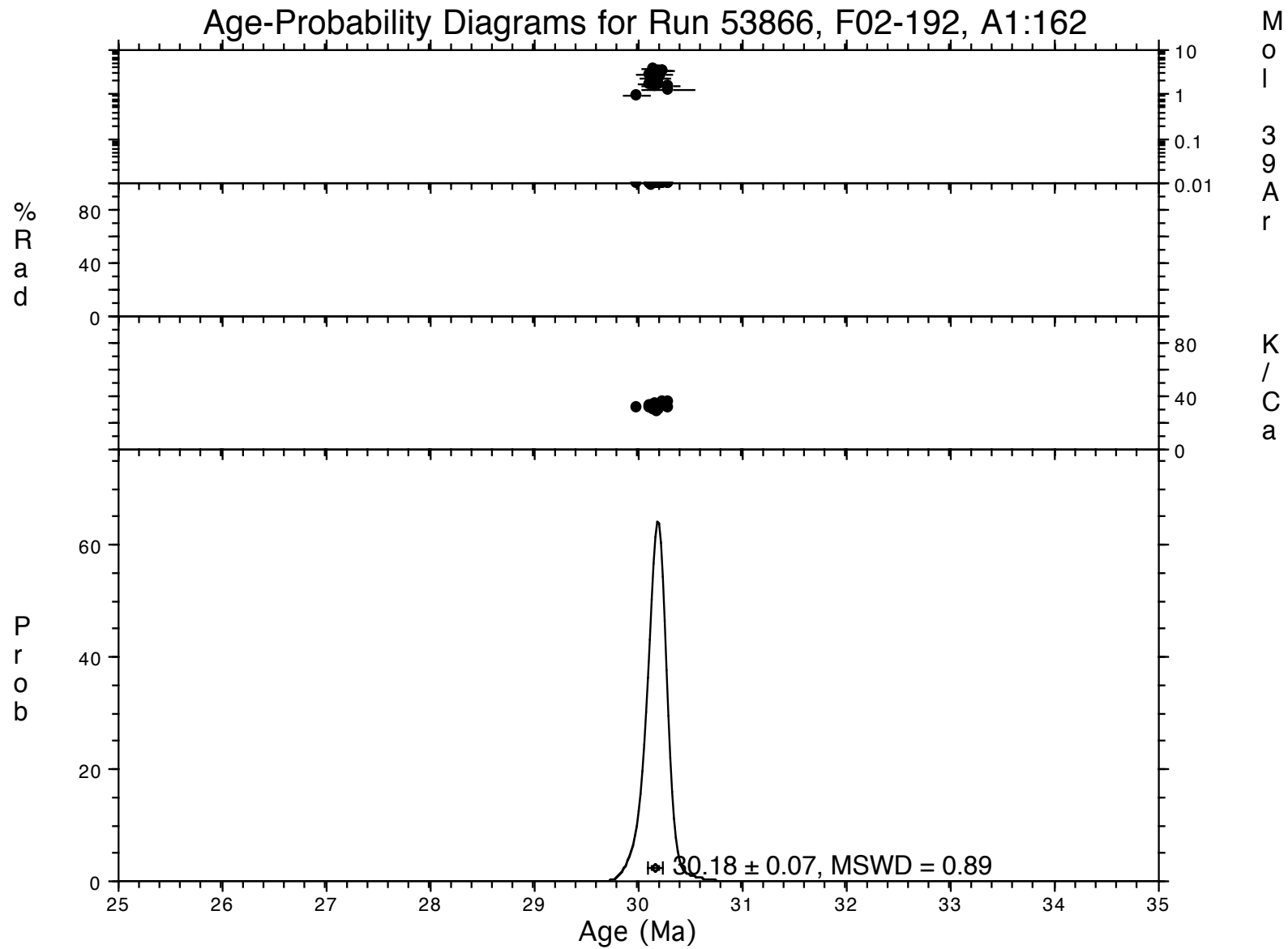
# Age-Probability Diagrams for Run 53884, CA-17 sa, B3:162



JF01-457 sanidine, Tws1, basal vitrophyre: 52903, C2, NM-148



# Age-Probability Diagrams for Run 53866, F02-192, A1:162



H01-61 sanidine, Tqt: 52876, A7, NM-148

