The origin of the Canary Island Seamount Province – New ages of old seamounts.

Paul van den Bogaard

Supplementary information

Supplementary information S1: Major CISP seamount coordinates

Longitude ºW	Latitude ºN	
-13.25	32.77	Essaouira Smt. ("Lars Smt." in Geldmacher et al., 2005)
-13.13	32.01	unnamed Smt.
-12.83	31.76	Rybin Smt. ("Anika Smt." in Geldmacher et al., 2005)
-12.66	31.25	unnamed Smt.
-13.62	31.15	Dacia Smt.
-12.57	31.02	unnamed Smt.
-12.79	30.98	unnamed Smt.
-13.12	30.68	unnamed Smt.
-13.36	30.40	unnamed Smt. ("Nico Smt." in Geldmacher et al., 2001)
-12.78	30.03	Conception B.
-14.71	30.17	unnamed Smt. ("Last Minute Smt." in Geldmacher et al., 2001)
-15.90	30.15	Selvagen G.
-16.00	30.07	Selvagen P.
-13.49	29.20	Lanzarote
-14.02	28.41	Fuerteventura
-14.78	28.23	Amanay Smt.
-15.02	27.98	Canary Ridge Smt.
-15.60	27.96	Gran Canaria
-16.16	28.09	El Hijo Smt.
-16.62	28.27	Tenerife
-17.23	28.13	La Gomera
-17.87	28.73	La Palma
-17.83	28.39	Palma Ridge Smt.
-18.01	27.73	El Hierro
-18.02	27.43	Hierro Ridge Smt.
-17.78	27.33	Henry Smt. ("Kiel Smt." in Schmincke & Graf, 2000)
-18.62	27.11	Bisabuelas Smt. ("Las Hijas Smt." in Schmincke & Graf, 2000)
-18.66	26.07	unnamed Smt. ("Hierro Smt." in Schmincke & Graf, 2000)
-19.41	25.37	Echo Smt. ("Endeavour Smt." in Schmincke & Graf, 2000)
-20.12	25.59	The Paps SE
-20.34	25.96	The Paps NW
-20.44	25.29	unnamed Smt.
-20.70	23.89	Tropic Smt.

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Geldmacher, J., Hoernle, K. A., van den Bogaard, P., Duggen, S. & Werner, R. New 40Ar/39/Ar age and geochemical data from seamounts in the Canary and Madeira volcanic provinces: Support for mantle plume hypothesis. Earth Planet. Sci. Lett. 237, 85-101 (2005).

Schmincke, H. U. & Graf, G. DECOS/OMEX II, Cruise No. 43, 25 November 1998 -17 January 1999 Meteor Reports, 2000-1 (Univ. Hamburg), 1-99 (2000).

Supplementary information S2: 40Ar/39Ar dating results table

Unit	Sample No	Sample coordinates			Rock type	Phase	Single-crystal weighted mean age (Ma)	±	2Sigma (Ma) incl. J-error	MSWD	Probability	Number of single-crystal analyses used		Alteration indices and rejection criteria
		Latitude	Longitude	Water depth (m.b.s.l.)			*Step-heating plateau age (Ma)*	±	*2Sigma (Ma) incl. J-error*	*MSWD*	*Probability*	*Number of heating steps in plateau*	*%39Ar in plateau*	
Canary Ridge Seamount	794-1	27.962	-15.023	1637	tephrite	hornblende	17.8	±	0.3	1.60	0.07	14		Al(36/37) = 2E-4 to 4E-3
						matrix	*17.7*	±	*0.2*	*1.30*	*0.23*	*8 to 20*	*76*	*Plateau steps Al(36/39) = 1E-3 to 3E-3*
El Hijo Seamount	755-2	28.083	-16.178	2100	trachybasalt	biotite	0.24	±	0.02	0.37	0.94	9 of 11		2 analyses with Al(36/39) > 2E-3 rejected
	759-3	28.087	-16.173	1884										
Palma Ridge Seamount	666-2	28.393	-17.833	1233	phonolite	biotite	2.11	±	0.03	0.80	0.64	12		Al(36/39) = 1E-4 to 1E-3
Hierro Ridge Seamount	678-2	27.428	-18.018	1694	trachyte	K-feldspar	133.3	±	0.2	1.40	0.12	18		Al(36/39) = 4E-5 to 1E-3
						hornblende	133.8	±	0.6	0.89	0.56	14		Al(36/37) = 1E-4 to 3E-3
Bisabuelas Seamount	689-2	27.102	-18.610	2862	trachyte	plagioclase	140.5	±	0.7	1.19	0.30	8 of 11		Ca/K = 6 to 41; 3 analyses with Al(36/37) >1E-4 rejected
	689-5					plagioclase	141.7	±	0.4	1.70	0.10	9 of 13		Ca/K = 4 to 5; 4 analyses with Al(36/37) >3E-4 rejected
The Paps Seamount	706-1	25.648	-20.133	2105	trachyte	K-feldspar	*91.1*	±	*0.2*	*1.30*	*0.27*	*7 to 10*	*52.4*	*Plateau steps Al(36(39) = 3E-4 to 1E-3*
Tropic Seamount	699-1	23.788	-20.737	2023	trachyte	K-feldspar	119.3	±	0.3	1.01	0.43	13		Al(36/39) = 6E-6 to 2E-4
	692-1	23.833	-20.752	1875	basalt	matrix	*113.9*	±	*0.2*	*1.06*	*0.39*	*23 to 32*	*59.2*	*Plateau steps Al(36/37) = 7E-4 to 2E-3*
	692-3	23.833	-20.752	1875	trachyte	K-feldspar	116.3	±	0.2	0.71	0.83	23		Al(36/39) = 2E-4 to 4E-3
						hornblende	116.6	±	0.5	1.30	0.25	10		Al(36/37) = 2E-4 to 1E-3
	693-2	23.842	-20.745	1142	trachyte	plagioclase	115.6	±	0.5	0.77	0.59	7		Al(36/37) = 1E-4 to 4E-3
						hornblende	117.0	±	0.5	0.78	0.64	10		Al(36/37) = 5E-5 to 8E-4

Supplementary information S3: 40Ar/39Ar analysis data

794-1 hornblende single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/37)	J	2 Sigma (%)
794-1 136 3000	3.00	1.59E+01	4.28E-00	4.72E-02	3.75E-15	8.41E-00	8.45E+01	**5.16E-02**	**1.84E+01**	**2.36E-00**	4.41E-03	4.15E-03	1.23E-01
794-1 140 3000	3.00	3.63E-00	4.16E-00	5.41E-03	4.83E-15	8.18E-00	3.13E+01	**1.18E-01**	**1.86E+01**	**1.06E-00**	3.74E-04	4.15E-03	1.23E-01
794-1 37 3000	3.00	2.96E-00	4.23E-00	4.08E-03	3.88E-15	8.33E-00	2.48E+01	**1.72E-01**	**1.66E+01**	**1.74E-00**	2.34E-04	4.15E-03	1.23E-01
794-1 38 3000	3.00	3.16E-00	4.23E-00	4.63E-03	3.36E-15	8.33E-00	2.84E+01	**2.18E-01**	**1.69E+01**	**1.88E-00**	2.88E-04	4.15E-03	1.23E-01
794-1 39 3000	3.00	3.37E-00	4.22E-00	5.27E-03	7.93E-15	8.31E-00	3.23E+01	**3.27E-01**	**1.70E+01**	**7.32E-01**	3.51E-04	4.15E-03	1.23E-01
794-1 40 3000	3.00	3.17E-00	4.21E-00	3.95E-03	8.37E-15	8.29E-00	2.20E+01	**4.42E-01**	**1.84E+01**	**7.62E-01**	2.23E-04	4.15E-03	1.23E-01
794-1 41 3000	3.00	2.95E-00	4.15E-00	3.60E-03	1.01E-14	8.16E-00	2.04E+01	**5.82E-01**	**1.75E+01**	**7.16E-01**	1.95E-04	4.15E-03	1.23E-01
794-1 42 3000	3.00	4.96E-00	4.35E-00	1.05E-02	5.56E-15	8.57E-00	5.27E+01	**6.58E-01**	**1.75E+01**	**1.38E-00**	8.34E-04	4.15E-03	1.23E-01
794-1 43 3000	3.00	3.29E-00	4.20E-00	4.11E-03	3.88E-15	8.27E-00	2.26E+01	**7.12E-01**	**1.90E+01**	**2.55E-00**	2.40E-04	4.15E-03	1.23E-01
794-1 44 3000	3.00	3.27E-00	4.25E-00	3.48E-03	3.35E-15	8.37E-00	1.69E+01	**7.58E-01**	**2.03E+01**	**2.18E-00**	1.73E-04	4.15E-03	1.23E-01
794-1 45 3000	3.00	5.14E-00	4.15E-00	1.00E-02	2.02E-15	8.17E-00	4.87E+01	**7.86E-01**	**1.97E+01**	**4.75E-00**	8.37E-04	4.15E-03	1.23E-01
794-1 46 3000	3.00	2.93E-00	4.21E-00	3.43E-03	3.85E-15	8.29E-00	1.86E+01	**8.39E-01**	**1.78E+01**	**1.75E-00**	1.72E-04	4.15E-03	1.23E-01
794-1 47 3000	3.00	2.91E-00	4.26E-00	3.32E-03	8.45E-15	8.38E-00	1.74E+01	**9.55E-01**	**1.79E+01**	**9.34E-01**	1.57E-04	4.15E-03	1.23E-01
794-1 48 3000	3.00	6.06E-00	4.26E-00	1.36E-02	3.27E-15	8.38E-00	5.85E+01	**1.00E-00**	**1.88E+01**	**1.88E-00**	1.16E-03	4.15E-03	1.23E-01

Mean age = 17.8±0.3 Ma
(2s, including J-error of .123%)
MSWD = 1.6, probability = 0.069

794-1 matrix step-heating analysis

Heating step	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/39)	J	2 Sigma (%)
794-1 8 150	0.15	4.13E+03	3.60E-01	1.29E+01	5.03E-17	7.07E-01	9.23E+01	2.24E-04	1.51E+03	1.76E+02	5.35E-00	4.15E-03	1.23E-01
794-1 8 250	0.25	1.01E+03	6.13E-01	3.08E-00	6.94E-16	1.20E-00	9.03E+01	3.31E-03	6.15E+02	8.38E+01	1.28E-00	4.15E-03	1.23E-01
794-1 8 400	0.40	2.85E+02	4.37E-01	8.71E-01	1.69E-15	8.56E-01	9.02E+01	1.08E-02	1.97E+02	5.59E+01	3.61E-01	4.15E-03	1.23E-01
794-1 8 500	0.50	8.51E+01	1.82E-01	2.72E-01	8.80E-15	3.57E-01	9.45E+01	5.00E-02	3.46E+01	2.49E+01	1.13E-01	4.15E-03	1.23E-01
794-1 8 600	0.60	1.05E+01	8.62E-02	2.67E-02	1.23E-14	1.69E-01	7.50E+01	1.05E-01	1.96E+01	1.14E-00	1.11E-02	4.15E-03	1.23E-01
794-1 8 700	0.70	4.42E-00	6.64E-02	6.51E-03	1.48E-14	1.30E-01	4.34E+01	1.70E-01	1.86E+01	4.72E-01	2.69E-03	4.15E-03	1.23E-01
794-1 8 800	0.80	3.77E-00	7.77E-02	4.27E-03	1.56E-14	1.52E-01	3.32E+01	2.40E-01	1.88E+01	4.74E-01	1.76E-03	4.15E-03	1.23E-01
794-1 8 900	0.90	3.60E-00	1.23E-01	3.88E-03	1.51E-14	2.41E-01	3.15E+01	**3.07E-01**	**1.83E+01**	**6.94E-01**	1.59E-03	4.15E-03	1.23E-01
794-1 8 1000	1.00	3.54E-00	2.16E-01	3.76E-03	1.41E-14	4.23E-01	3.08E+01	**3.70E-01**	**1.82E+01**	**7.35E-01**	1.53E-03	4.15E-03	1.23E-01
794-1 8 1100	1.10	3.49E-00	2.96E-01	3.56E-03	1.24E-14	5.81E-01	2.93E+01	**4.25E-01**	**1.83E+01**	**7.59E-01**	1.43E-03	4.15E-03	1.23E-01
794-1 8 1200	1.20	3.59E-00	4.35E-01	4.34E-03	1.21E-14	8.54E-01	3.44E+01	**4.79E-01**	**1.75E+01**	**7.36E-01**	1.73E-03	4.15E-03	1.23E-01
794-1 8 1350	1.35	3.73E-00	6.29E-01	4.64E-03	1.31E-14	1.23E-00	3.49E+01	**5.37E-01**	**1.81E+01**	**8.00E-01**	1.82E-03	4.15E-03	1.23E-01
794-1 8 1500	1.50	3.72E-00	7.64E-01	4.94E-03	1.06E-14	1.50E-00	3.69E+01	**5.84E-01**	**1.75E+01**	**9.11E-01**	1.92E-03	4.15E-03	1.23E-01
794-1 8 2000	2.00	4.03E-00	1.37E-00	6.21E-03	1.78E-14	2.69E-00	4.17E+01	**6.63E-01**	**1.75E+01**	**6.36E-01**	2.35E-03	4.15E-03	1.23E-01
794-1 8 3000	3.00	4.56E-00	1.68E-00	8.17E-03	1.76E-14	3.30E-00	4.89E+01	**7.41E-01**	**1.74E+01**	**4.96E-01**	3.11E-03	4.15E-03	1.23E-01
794-1 8 4000	4.00	4.60E-00	1.26E-00	7.74E-03	1.35E-14	2.48E-00	4.67E+01	**8.01E-01**	**1.82E+01**	**7.33E-01**	3.00E-03	4.15E-03	1.23E-01
794-1 8 6000	6.00	4.74E-00	8.95E-01	8.38E-03	1.56E-14	1.76E-00	5.02E+01	**8.70E-01**	**1.76E+01**	**7.20E-01**	3.33E-03	4.15E-03	1.23E-01
794-1 8 10000	10.00	4.44E-00	6.41E-01	7.26E-03	2.01E-14	1.26E-00	4.67E+01	**9.60E-01**	**1.76E+01**	**3.28E-01**	2.91E-03	4.15E-03	1.23E-01
794-1 8 20000	20.00	4.22E-00	4.40E-01	6.60E-03	6.47E-15	8.63E-01	4.51E+01	**9.89E-01**	**1.72E+01**	**9.45E-01**	2.67E-03	4.15E-03	1.23E-01
794-1 8 25000	25.00	3.92E-00	4.58E-01	5.71E-03	2.55E-15	8.98E-01	4.18E+01	**1.00E-00**	**1.70E+01**	**2.64E-00**	2.29E-03	4.15E-03	1.23E-01

Plateau age = 17.7±0.2 Ma
(2s, including J-error of .123%)
MSWD = 1.3, probability = 0.23
76% of the 39Ar, steps 8 through 20

755-2 and 759-3 biotite single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/39)	J	2 Sigma (%)
755-2 97 3000	3.00	2.72E-01	2.21E-03	8.22E-04	4.59E-14	4.34E-03	9.02E+01	**1.38E-01**	**1.97E-01**	**1.46E-01**	3.41E-04	4.15E-03	1.23E-01
755-2 98 3000	3.00	2.76E-01	6.42E-03	7.84E-04	5.57E-14	1.26E-02	8.45E+01	**3.05E-01**	**3.16E-01**	**1.39E-01**	3.24E-04	4.15E-03	1.23E-01
755-2 99 3000	3.00	2.73E-01	2.24E-03	7.92E-04	6.64E-14	4.39E-03	8.66E+01	**5.04E-01**	**2.70E-01**	**1.04E-01**	3.28E-04	4.15E-03	1.23E-01
755-2 102 3000	3.00	1.75E-01	1.74E-03	4.77E-04	4.80E-14	3.41E-03	8.17E+01	**6.48E-01**	**2.36E-01**	**1.65E-01**	1.98E-04	4.15E-03	1.23E-01
755-2 103 3000	3.00	1.84E-01	9.57E-04	5.35E-04	2.80E-14	1.88E-03	8.74E+01	**7.33E-01**	**1.70E-01**	**1.80E-01**	2.22E-04	4.15E-03	1.23E-01
755-2 104 10000	10.00	1.84E-00	1.06E-02	5.99E-03	9.70E-14	2.07E-02	9.62E+01	rej.	5.27E-01	1.90E-01	2.48E-03	4.15E-03	1.23E-01
759-3 14 168	10.00	4.11E-01	2.28E-02	1.27E-03	1.46E-14	4.47E-02	9.17E+01	**7.76E-01**	**2.40E-01**	**7.18E-02**	4.95E-04	3.92E-03	0.230000
759-3 15 333	10.00	9.73E-01	4.42E-01	3.30E-03	1.61E-14	8.68E-01	9.57E+01	**8.25E-01**	**2.92E-01**	**1.80E-01**	1.23E-03	3.92E-03	0.230000
759-3 16 433	10.00	5.20E-00	1.76E-02	1.74E-02	2.56E-14	3.45E-02	9.91E+01	rej.	3.25E-01	3.06E-01	6.83E-03	3.92E-03	0.230000
759-3 17 325	10.00	1.74E-01	2.20E-03	4.63E-04	3.79E-14	4.30E-03	8.04E+01	**9.39E-01**	**2.35E-01**	**2.87E-02**	1.81E-04	3.92E-03	0.230000

759-3 18 529	10.00	7.52E-01	5.78E-03	2.41E-03	2.06E-14	1.13E-02	9.53E+01	**1.00E-00**	**2.51E-01**	**1.25E-01**	9.45E-04	3.92E-03	0.230000

Mean age = 0.24±0.02 Ma
(2s, including J-error of .23%)
MSWD = 0.37, probability = 0.94

666-2 biotite single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/39)	J	2 Sigma (%)
666-2 37 3000	3.00	4.30E-01	0.132774	5.49E-04	3.25E-14	2.60E-01	3.46E+01	**8.54E-02**	**2.09E-00**	**2.14E-01**	2.06E-04	4.15E-03	0.128000
666-2 38 10000	10.00	5.12E-01	0.054428	8.07E-04	1.06E-13	1.07E-01	4.57E+01	**2.32E-01**	**2.07E-00**	**6.49E-02**	3.26E-04	4.15E-03	0.128000
666-2 39 10000	10.00	3.75E-01	0.051393	3.37E-04	7.23E-14	1.01E-01	2.52E+01	**3.33E-01**	**2.08E-00**	**9.56E-02**	1.31E-04	4.15E-03	0.128000
666-2 40 3000	3.00	4.47E-01	0.005694	5.39E-04	3.24E-14	1.12E-02	3.57E+01	**3.78E-01**	**2.13E-00**	**2.36E-01**	2.23E-04	4.15E-03	0.128000
666-2 41 10000	10.00	1.06E-00	0.065498	2.62E-03	6.04E-14	1.28E-01	7.26E+01	**4.61E-01**	**2.16E-00**	**1.13E-01**	1.08E-03	4.15E-03	0.128000
666-2 42 10000	10.00	4.71E-01	0.061777	6.60E-04	5.67E-14	1.21E-01	4.03E+01	**5.40E-01**	**2.09E-00**	**1.02E-01**	2.64E-04	4.15E-03	0.128000
666-2 43 3000	3.00	3.92E-01	0.013653	3.75E-04	2.77E-14	2.68E-02	2.81E+01	**5.78E-01**	**2.09E-00**	**1.79E-01**	1.53E-04	4.15E-03	0.128000
666-2 44 10000	10.00	4.14E-01	0.067632	4.62E-04	6.91E-14	1.33E-01	3.14E+01	**6.74E-01**	**2.11E-00**	**9.85E-02**	1.80E-04	4.15E-03	0.128000
666-2 45 10000	10.00	4.51E-01	0.087047	5.61E-04	1.29E-13	1.71E-01	3.49E+01	**8.54E-01**	**2.18E-00**	**6.44E-02**	2.18E-04	4.15E-03	0.128000
666-2 46 10000	10.00	5.65E-01	0.063891	9.56E-04	5.16E-14	1.25E-01	4.91E+01	**9.26E-01**	**2.14E-00**	**8.47E-02**	3.86E-04	4.15E-03	0.128000
666-2 47 3000	3.00	4.77E-01	0.049568	7.01E-04	2.91E-14	9.72E-02	4.25E+01	**9.66E-01**	**2.04E-00**	**1.91E-01**	2.83E-04	4.15E-03	0.128000
666-2 48 3000	3.00	5.91E-01	0.038304	1.04E-03	2.46E-14	7.51E-02	5.14E+01	**1.00E-00**	**2.13E-00**	**2.39E-01**	4.24E-04	4.15E-03	0.128000

Mean age = 2.11±0.03 Ma
(2s, including J-error of .128%)
MSWD = 0.80, probability = 0.64

678-2 K-feldspar single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/39)	J	2 Sigma (%)
678-2 133 772	10.00	1.90E+01	1.07E-02	5.32E-04	3.76E-15	2.09E-02	8.20E-01	**1.40E-02**	**1.36E+02**	**1.73E-00**	2.19E-04	4.15E-03	1.19E-01
678-2 1 130	10.00	1.86E+01	1.16E-02	2.69E-04	1.32E-14	2.27E-02	4.21E-01	**6.30E-02**	**1.33E+02**	**5.56E-01**	1.10E-04	4.15E-03	1.19E-01
678-2 3 51	10.00	1.86E+01	1.24E-02	4.81E-04	4.99E-15	2.44E-02	7.56E-01	**8.15E-02**	**1.33E+02**	**1.05E-00**	1.98E-04	4.15E-03	1.19E-01
678-2 4 70	10.00	1.87E+01	1.06E-02	1.06E-03	1.36E-15	2.09E-02	1.67E-00	**8.66E-02**	**1.32E+02**	**3.69E-00**	4.38E-04	4.15E-03	1.19E-01
678-2 5 235	10.00	1.86E+01	1.38E-02	1.07E-04	2.17E-14	2.70E-02	1.62E-01	**1.67E-01**	**1.34E+02**	**3.44E-01**	4.22E-05	4.15E-03	1.19E-01
678-2 6 204	10.00	1.86E+01	9.35E-03	9.89E-05	1.91E-14	1.83E-02	1.52E-01	**2.38E-01**	**1.34E+02**	**5.12E-01**	3.96E-05	4.15E-03	1.19E-01
678-2 7 481	10.00	1.86E+01	1.87E-02	2.27E-04	4.30E-14	3.66E-02	3.50E-01	**3.98E-01**	**1.33E+02**	**2.39E-01**	9.13E-05	4.15E-03	1.19E-01
678-2 10 137	10.00	1.87E+01	1.62E-02	3.83E-04	1.16E-14	3.17E-02	5.97E-01	**4.42E-01**	**1.34E+02**	**4.77E-01**	1.57E-04	4.15E-03	1.19E-01
678-2 11 72	10.00	1.91E+01	1.51E-02	2.35E-03	6.34E-15	2.96E-02	3.63E-00	**4.65E-01**	**1.33E+02**	**8.66E-01**	9.72E-04	4.15E-03	1.19E-01
678-2 12 47	10.00	1.87E+01	1.00E-02	4.80E-04	4.25E-15	1.96E-02	7.51E-01	**4.81E-01**	**1.34E+02**	**1.23E-00**	1.98E-04	4.15E-03	1.19E-01
678-2 121 64	10.00	1.86E+01	1.74E-02	1.13E-04	6.09E-15	3.40E-02	1.70E-01	**5.04E-01**	**1.34E+02**	**1.24E-00**	4.43E-05	4.15E-03	1.19E-01
678-2 122 123	10.00	1.86E+01	7.98E-03	4.09E-04	7.36E-15	1.56E-02	6.43E-01	**5.31E-01**	**1.34E+02**	**9.15E-01**	1.68E-04	4.15E-03	1.19E-01
678-2 123 165	10.00	1.86E+01	1.28E-02	2.82E-04	1.16E-14	2.50E-02	4.41E-01	**5.74E-01**	**1.33E+02**	**6.18E-01**	1.15E-04	4.15E-03	1.19E-01
678-2 124 182	10.00	1.87E+01	1.34E-02	2.95E-04	1.46E-14	2.62E-02	4.58E-01	**6.28E-01**	**1.34E+02**	**5.49E-01**	1.20E-04	4.15E-03	1.19E-01
678-2 125 120	10.00	1.87E+01	1.36E-02	7.38E-04	1.16E-14	2.66E-02	1.16E-00	**6.72E-01**	**1.33E+02**	**5.39E-01**	3.04E-04	4.15E-03	1.19E-01
678-2 127 540	10.00	1.85E+01	1.00E-02	1.75E-04	4.82E-14	1.96E-02	2.72E-01	**8.51E-01**	**1.33E+02**	**2.80E-01**	7.09E-05	4.15E-03	1.19E-01
678-2 130 249	10.00	1.86E+01	1.07E-02	3.09E-04	2.49E-14	2.10E-02	4.83E-01	**9.43E-01**	**1.34E+02**	**7.22E-01**	1.26E-04	4.15E-03	1.19E-01
678-2 132 160	10.00	1.88E+01	1.39E-02	8.34E-04	1.52E-14	2.72E-02	1.30E-00	**1.00E-00**	**1.34E+02**	**6.27E-01**	3.44E-04	4.15E-03	1.19E-01

Mean age = 133.3±0.2 (2s, including J-error of .119%)
MSWD = 1.4, probability = 0.12

678-2 hornblende single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/37)	J	2 Sigma (%)
678-2 143 3000	3.00	1.91E+01	5.21E-00	3.48E-03	4.36E-15	1.03E+01	2.34E-00	**1.03E-01**	**1.35E+02**	**1.40E-00**	2.64E-00	4.15E-03	1.28E-01
678-2 29 10000	10.00	1.91E+01	5.97E-00	3.87E-03	4.01E-15	1.18E+01	2.50E-00	**1.98E-01**	**1.35E+02**	**1.41E-00**	7.93E-01	4.15E-03	1.28E-01
678-2 1 3000	3.00	2.10E+01	5.92E-00	1.14E-02	3.93E-15	1.17E+01	1.29E+01	**2.90E-01**	**1.33E+02**	**1.79E-00**	2.91E-00	4.15E-03	1.28E-01
678-2 2 3000	3.00	3.51E+01	6.66E-00	5.77E-02	4.70E-15	1.31E+01	4.65E+01	**4.01E-01**	**1.36E+02**	**3.32E-00**	4.85E-00	4.15E-03	1.28E-01
678-2 3 3000	3.00	2.28E+01	6.76E-00	1.73E-02	4.51E-15	1.33E+01	1.91E+01	**5.07E-01**	**1.34E+02**	**1.62E-00**	3.16E-00	4.15E-03	1.28E-01
678-2 4 3000	3.00	1.97E+01	6.28E-00	6.10E-03	3.03E-15	1.24E+01	5.60E-00	**5.79E-01**	**1.35E+02**	**2.50E-00**	2.72E-00	4.15E-03	1.28E-01
678-2 5 3000	3.00	2.31E+01	6.27E-00	1.82E-02	1.83E-15	1.24E+01	2.02E+01	**6.22E-01**	**1.33E+02**	**3.45E-00**	3.19E-00	4.15E-03	1.28E-01
678-2 6 3000	3.00	1.90E+01	6.47E-00	4.44E-03	2.48E-15	1.28E+01	3.09E-00	**6.80E-01**	**1.34E+02**	**2.49E-00**	2.63E-00	4.15E-03	1.28E-01
678-2 7 3000	3.00	1.95E+01	6.75E-00	5.17E-03	2.19E-15	1.33E+01	3.98E-00	**7.32E-01**	**1.35E+02**	**2.20E-00**	2.69E-00	4.15E-03	1.28E-01
678-2 8 3000	3.00	2.04E+01	6.05E-00	8.98E-03	1.98E-15	1.19E+01	9.68E-00	**7.79E-01**	**1.34E+02**	**2.20E-00**	2.83E-00	4.15E-03	1.28E-01
678-2 9 3000	3.00	2.23E+01	6.04E-00	1.59E-02	2.97E-15	1.19E+01	1.80E+01	**8.49E-01**	**1.33E+02**	**2.17E-00**	3.09E-00	4.15E-03	1.28E-01
678-2 10 3000	3.00	2.10E+01	5.63E-00	1.05E-02	2.49E-15	1.11E+01	1.18E+01	**9.08E-01**	**1.34E+02**	**2.28E-00**	2.91E-00	4.15E-03	1.28E-01

678-2 11 3000	3.00	2.25E+01	6.26E-00	1.64E-02	1.76E-15	1.23E+01	1.85E+01	**9.49E-01**	**1.33E+02**	**3.48E-00**	3.11E-00	4.15E-03	1.28E-01
678-2 12 3000	3.00	2.44E+01	5.24E-00	2.27E-02	2.15E-15	1.03E+01	2.50E+01	**1.00E-00**	**1.33E+02**	**3.28E-00**	3.38E-00	4.15E-03	1.28E-01

Mean age = 133.8±0.6 Ma
(2s, including J-error of .128%)
MSWD = 0.89, probability = 0.56

689-2 plagioclase single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/37)	J	2 Sigma (%)
689-2 121 248	10.00	2.13E+01	2.05E+01	8.95E-03	5.76E-16	4.10E+01	1.91E-00	**7.95E-02**	**1.42E+02**	**2.25E-00**	2.58E-05	3.85E-03	1.70E-01
689-2 13 402	10.00	2.15E+01	1.61E+01	1.24E-02	1.07E-15	3.21E+01	8.92E-00	rej.	1.33E+02	1.95E-00	1.55E-04	3.85E-03	1.70E-01
689-2 14 627	10.00	2.14E+01	8.69E-00	4.86E-03	2.45E-15	1.72E+01	4.18E-01	**2.70E-01**	**1.41E+02**	**1.07E-00**	7.33E-05	3.85E-03	1.70E-01
689-2 15 172	10.00	2.13E+01	3.12E-00	1.79E-03	1.30E-15	6.14E-00	5.98E-01	**3.56E-01**	**1.42E+02**	**1.28E-00**	7.88E-05	3.85E-03	1.70E-01
689-2 16 230	10.00	2.11E+01	2.05E+01	9.18E-03	5.32E-16	4.10E+01	6.72E-01	**3.91E-01**	**1.40E+02**	**1.82E-00**	3.04E-05	3.85E-03	1.70E-01
689-2 17 427	10.00	2.66E+01	2.75E-00	2.55E-02	3.74E-15	5.40E-00	2.73E+01	rej.	1.30E+02	1.08E-00	3.44E-03	3.85E-03	1.70E-01
689-2 18 180	10.00	2.13E+01	1.41E+01	6.53E-03	5.33E-16	2.80E+01	1.85E-00	**7.45E-01**	**1.41E+02**	**2.59E-00**	3.65E-05	3.85E-03	1.70E-01
689-2 19 219	10.00	2.14E+01	1.02E+01	6.12E-03	7.50E-16	2.02E+01	3.25E-00	**8.49E-01**	**1.40E+02**	**2.32E-00**	8.89E-05	3.85E-03	1.70E-01
689-2 20 398	10.00	2.26E+01	3.05E-00	9.40E-03	3.12E-15	6.00E-00	1.08E+01	rej.	1.36E+02	1.12E-00	1.04E-03	3.85E-03	1.70E-01
689-2 23 294	10.00	2.11E+01	1.99E+01	8.77E-03	6.74E-16	3.97E+01	2.02E-00	**9.42E-01**	**1.41E+02**	**2.20E-00**	2.80E-05	3.85E-03	1.70E-01
689-2 24 176	10.00	2.17E+01	2.05E+01	1.27E-02	4.22E-16	4.10E+01	7.00E-00	**1.00E-00**	**1.37E+02**	**3.51E-00**	9.63E-05	3.85E-03	1.70E-01

Mean age = 140.5±0.7 Ma
(2s, including J-error of .17%)
MSWD = 1.19, probability = 0.30

689-5 plagioclase single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/37)	J	2 Sigma (%)
689-5 130 68	10.00	2.12E+01	2.19E-00	1.66E-03	6.18E-16	4.30E-00	1.19E-00	**3.99E-02**	**1.43E+02**	**1.31E-00**	1.52E-04	3.92E-03	2.30E-01
689-5 121 305	10.00	2.12E+01	2.13E-00	2.56E-03	2.81E-15	4.19E-00	2.47E-00	rej.	1.41E+02	7.43E-01	3.25E-04	3.92E-03	2.30E-01
689-5 122 174	10.00	2.12E+01	2.08E-00	2.37E-03	1.64E-15	4.09E-00	2.24E-00	1.46E-01	**1.41E+02**	**1.06E-00**	3.02E-04	3.92E-03	2.30E-01
689-5 123 209	10.00	2.11E+01	1.86E-00	1.30E-03	2.11E-15	3.66E-00	8.52E-01	2.82E-01	**1.42E+02**	**8.34E-01**	1.28E-04	3.92E-03	2.30E-01
689-5 124 145	10.00	2.10E+01	2.26E-00	1.11E-03	1.34E-15	4.45E-00	3.89E-01	3.68E-01	**1.43E+02**	**1.09E-00**	4.79E-05	3.92E-03	2.30E-01
689-5 125 137	10.00	2.18E+01	2.29E-00	4.52E-03	1.31E-15	4.49E-00	4.98E-00	rej.	1.41E+02	1.11E-00	6.30E-04	3.92E-03	2.30E-01
689-5 126 312	10.00	2.11E+01	2.16E-00	1.69E-03	2.91E-15	4.25E-00	1.25E-00	5.56E-01	**1.42E+02**	**7.00E-01**	1.62E-04	3.92E-03	2.30E-01
689-5 127 293	10.00	2.09E+01	1.99E-00	1.15E-03	2.84E-15	3.90E-00	5.92E-01	7.39E-01	**1.42E+02**	**6.29E-01**	8.28E-05	3.92E-03	2.30E-01
689-5 128 356	10.00	2.17E+01	2.46E-00	5.97E-03	3.24E-15	4.83E-00	6.90E-00	rej.	1.38E+02	4.96E-01	8.08E-04	3.92E-03	2.30E-01
689-5 129 202	10.00	2.20E+01	2.21E-00	4.60E-03	1.48E-15	4.34E-00	5.09E-00	rej.	1.42E+02	1.09E-00	6.71E-04	3.92E-03	2.30E-01
689-5 130 186	10.00	2.11E+01	2.18E-00	2.16E-03	1.81E-15	4.28E-00	1.90E-00	8.56E-01	**1.41E+02**	**9.81E-01**	2.44E-04	3.92E-03	2.30E-01
689-5 131 95	10.00	2.10E+01	1.91E-00	7.27E-04	9.93E-16	3.75E-00	3.17E-02	9.20E-01	**1.43E+02**	**1.71E-00**	4.66E-06	3.92E-03	2.30E-01
689-5 132 120	10.00	2.10E+01	2.00E-00	1.78E-03	1.24E-15	3.93E-00	1.47E-00	1.00E-00	**1.41E+02**	**1.36E-00**	2.05E-04	3.92E-03	2.30E-01

Mean age = 141.7±0.4 Ma
(2s, including J-error of .23%)
MSWD = 1.7, probability = 0.098

706-1 K-feldspar step-heating analysis

Heating step	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/39)	J	2 Sigma (%)
706-1 1 150	0.15	4.12E+01	2.29E-01	8.35E-02	3.06E-15	4.49E-01	5.99E+01	5.94E-03	1.19E+02	3.40E-00	3.46E-02	4.14E-03	0.135
706-1 1 250	0.25	3.05E+01	2.37E-01	4.93E-02	9.81E-15	4.64E-01	4.78E+01	2.49E-02	1.15E+02	1.98E-00	2.04E-02	4.14E-03	0.135
706-1 1 400	0.40	1.78E+01	9.76E-02	1.37E-02	2.64E-14	1.91E-01	2.27E+01	7.61E-02	9.96E+01	7.78E-01	5.66E-03	4.14E-03	0.135
706-1 1 500	0.50	1.36E+01	2.09E-02	2.16E-03	2.79E-14	4.09E-02	4.68E-00	1.30E-01	9.42E+01	5.36E-01	8.94E-04	4.14E-03	0.135
706-1 1 600	0.60	1.32E+01	1.81E-02	1.42E-03	3.64E-14	3.54E-02	3.18E-00	2.01E-01	9.28E+01	3.78E-01	5.89E-04	4.14E-03	0.135
706-1 1 800	0.80	1.30E+01	3.14E-02	1.30E-03	8.08E-14	6.15E-02	2.93E-00	3.57E-01	9.20E+01	2.34E-01	5.40E-04	4.14E-03	0.135
706-1 1 1000	1.00	1.28E+01	2.22E-02	7.39E-04	8.50E-14	4.36E-02	1.69E-00	**5.22E-01**	**9.13E+01**	**3.00E-01**	3.06E-04	4.14E-03	0.135
706-1 1 1200	1.20	1.28E+01	1.04E-02	9.55E-04	6.52E-14	2.04E-02	2.19E-00	**6.48E-01**	**9.12E+01**	**2.37E-01**	3.95E-04	4.14E-03	0.135
706-1 1 1500	1.50	1.30E+01	3.03E-03	1.70E-03	6.33E-14	5.93E-03	3.86E-00	**7.71E-01**	**9.11E+01**	**2.36E-01**	7.05E-04	4.14E-03	0.135
706-1 1 2000	2.00	1.33E+01	8.03E-03	2.44E-03	5.68E-14	1.57E-02	5.42E-00	**8.81E-01**	**9.17E+01**	**4.76E-01**	1.01E-03	4.14E-03	0.135
706-1 1 3000	3.00	1.36E+01	5.56E-03	2.57E-03	2.88E-14	1.09E-02	5.57E-00	9.37E-01	9.35E+01	4.17E-01	1.06E-03	4.14E-03	0.135
706-1 1 4000	4.00	1.43E+01	3.21E-03	3.81E-03	1.22E-14	6.30E-03	7.89E-00	9.61E-01	9.55E+01	6.48E-01	1.58E-03	4.14E-03	0.135
706-1 1 6000	6.00	1.43E+01	5.81E-03	4.03E-03	1.24E-14	1.14E-02	8.32E-00	9.85E-01	9.53E+01	6.60E-01	1.67E-03	4.14E-03	0.135
706-1 1 8000	8.00	1.42E+01	3.99E-04	4.07E-03	4.52E-15	7.83E-04	8.51E-00	9.94E-01	9.41E+01	1.21E-00	1.69E-03	4.14E-03	0.135
706-1 1 10000	10.00	1.43E+01	1.01E-04	5.24E-03	2.31E-15	1.97E-04	1.09E+01	9.98E-01	9.24E+01	2.38E-00	2.17E-03	4.14E-03	0.135
706-1 1 12000	12.00	1.15E+01	2.35E-02	1.45E-03	1.50E-16	4.60E-02	3.70E-00	9.98E-01	8.08E+01	4.30E+01	6.00E-04	4.14E-03	0.135
706-1 1 15000	15.00	1.36E+01	-8.37E-03	2.25E-03	8.81E-16	-1.64E-02	4.90E-00	1.00E-00	9.39E+01	6.08E-00	9.31E-04	4.14E-03	0.135

Plateau age = 91.1±0.2 Ma
(2s, including J-error of .135%)
MSWD = 1.3, probability = 0.27
52.4% of the 39Ar, steps 7 through 10

699-1 K-feldspar single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/39)	J	2 Sigma (%)
699-1 124 142	10.00	1.74E+01	9.34E-03	5.99E-05	2.38E-15	0.018	9.56E-02	**6.66E-02**	**1.19E+02**	**6.04E-01**	2.21E-05	3.92E-03	2.30E-01
699-1 109 258	10.00	1.76E+01	4.99E-02	5.48E-04	3.62E-15	0.098	8.91E-01	**1.68E-01**	**1.19E+02**	**5.97E-01**	2.08E-04	3.92E-03	2.30E-01
699-1 110 200	10.00	1.75E+01	5.25E-02	3.33E-04	1.49E-15	0.103	5.29E-01	**2.10E-01**	**1.19E+02**	**1.00E-00**	1.23E-04	3.92E-03	2.30E-01
699-1 111 185	10.00	1.76E+01	3.44E-02	3.46E-04	2.45E-15	0.067	5.62E-01	**2.78E-01**	**1.20E+02**	**6.34E-01**	1.31E-04	3.92E-03	2.30E-01
699-1 112 204	10.00	1.76E+01	3.06E-02	1.14E-04	2.83E-15	0.060	1.72E-01	**3.58E-01**	**1.20E+02**	**5.74E-01**	4.02E-05	3.92E-03	2.30E-01
699-1 113 136	10.00	1.76E+01	4.71E-02	6.72E-04	1.06E-15	0.092	1.10E-00	**3.87E-01**	**1.19E+02**	**1.49E-00**	2.56E-04	3.92E-03	2.30E-01
699-1 114 209	10.00	1.75E+01	2.07E-02	1.22E-04	1.61E-15	0.041	1.92E-01	**4.32E-01**	**1.20E+02**	**7.71E-01**	4.47E-05	3.92E-03	2.30E-01
699-1 115 383	10.00	1.76E+01	5.02E-02	4.74E-04	3.16E-15	0.098	7.65E-01	**5.21E-01**	**1.19E+02**	**4.96E-01**	1.79E-04	3.92E-03	2.30E-01
699-1 116 412	10.00	1.75E+01	5.21E-02	4.96E-04	6.30E-15	0.102	8.03E-01	**6.97E-01**	**1.19E+02**	**3.90E-01**	1.87E-04	3.92E-03	2.30E-01
699-1 117 233	10.00	1.75E+01	2.28E-02	4.51E-05	3.86E-15	0.045	6.19E-02	**8.05E-01**	**1.20E+02**	**4.57E-01**	1.44E-05	3.92E-03	2.30E-01
699-1 118 203	10.00	1.75E+01	1.15E-02	2.01E-05	2.48E-15	0.023	2.67E-02	**8.74E-01**	**1.20E+02**	**6.30E-01**	6.19E-06	3.92E-03	2.30E-01
699-1 119 175	10.00	1.75E+01	1.73E-02	8.16E-05	2.55E-15	0.034	1.27E-01	**9.46E-01**	**1.20E+02**	**6.02E-01**	2.95E-05	3.92E-03	2.30E-01
699-1 120 143	10.00	1.75E+01	1.66E-02	7.62E-05	1.94E-15	0.033	1.18E-01	**1.00E-00**	**1.20E+02**	**9.60E-01**	2.74E-05	3.92E-03	2.30E-01

Mean age = 119.3±0.3 Ma
(2s, including J-error of .23%)
MSWD = 1.01, probability = 0.43

692-1 matrix step-heating analysis

Heating step	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/37)	J	2 Sigma (%)
692-1 3 70	0.07	9.73E+02	2.70E-01	3.32E-00	1.26E-17	5.30E-01	1.01E+02	1.66E-04	-5.55E+01	9.64E+01	4.73E-00	3.85E-03	1.70E-01
692-1 3 100	0.10	5.71E+02	1.12E-00	1.90E-00	9.51E-17	2.19E-00	9.85E+01	1.41E-03	5.79E+01	4.71E+01	6.56E-01	3.85E-03	1.70E-01
692-1 3 125	0.13	4.13E+02	5.30E-01	1.35E-00	9.55E-17	1.04E-00	9.68E+01	2.67E-03	8.91E+01	2.60E+01	9.83E-01	3.85E-03	1.70E-01
692-1 3 150	0.15	3.33E+02	8.19E-01	1.08E-00	2.01E-16	1.61E-00	9.62E+01	5.31E-03	8.67E+01	1.48E+01	5.09E-01	3.85E-03	1.70E-01
692-1 3 175	0.18	2.92E+02	7.99E-01	9.42E-01	3.24E-16	1.57E-00	9.53E+01	9.57E-03	9.34E+01	2.06E+01	4.54E-01	3.85E-03	1.70E-01
692-1 3 200	0.20	2.57E+02	7.42E-01	8.24E-01	3.89E-16	1.46E-00	9.48E+01	1.47E-02	9.06E+01	1.48E+01	4.28E-01	3.85E-03	1.70E-01
692-1 3 225	0.23	2.17E+02	8.53E-01	6.84E-01	4.57E-16	1.67E-00	9.31E+01	2.07E-02	1.01E+02	1.02E+01	3.09E-01	3.85E-03	1.70E-01
692-1 3 250	0.25	1.54E+02	8.25E-01	4.75E-01	5.11E-16	1.62E-00	9.11E+01	2.74E-02	9.28E+01	7.14E-00	2.21E-01	3.85E-03	1.70E-01
692-1 3 275	0.28	1.05E+02	9.46E-01	3.10E-01	5.05E-16	1.86E-00	8.72E+01	3.40E-02	9.13E+01	6.71E-00	1.26E-01	3.85E-03	1.70E-01
692-1 3 300	0.30	5.69E+01	10.00E-01	1.56E-01	5.91E-16	1.96E-00	8.08E+01	4.18E-02	7.45E+01	5.80E-00	5.98E-02	3.85E-03	1.70E-01
692-1 3 350	0.35	3.57E+01	8.12E-01	7.81E-02	7.76E-16	1.59E-00	6.44E+01	5.20E-02	8.62E+01	3.34E-00	3.69E-02	3.85E-03	1.70E-01
692-1 3 400	0.40	2.74E+01	7.87E-01	4.76E-02	9.11E-16	1.54E-00	5.11E+01	6.39E-02	9.09E+01	3.26E-00	2.31E-02	3.85E-03	1.70E-01
692-1 3 450	0.45	2.44E+01	7.30E-01	3.09E-02	1.05E-15	1.43E-00	3.72E+01	7.77E-02	1.04E+02	2.60E-00	1.62E-02	3.85E-03	1.70E-01
692-1 3 500	0.50	2.29E+01	7.41E-01	2.12E-02	1.17E-15	1.45E-00	2.70E+01	9.30E-02	1.13E+02	2.09E-00	1.09E-02	3.85E-03	1.70E-01
692-1 3 550	0.55	2.19E+01	6.83E-01	1.50E-02	1.38E-15	1.34E-00	1.99E+01	1.11E-01	1.18E+02	1.64E-00	8.32E-03	3.85E-03	1.70E-01
692-1 3 600	0.60	2.08E+01	5.60E-01	1.02E-02	1.51E-15	1.10E-00	1.43E+01	1.31E-01	1.20E+02	9.01E-01	6.88E-03	3.85E-03	1.70E-01
692-1 3 700	0.70	2.11E+01	5.64E-01	1.18E-02	2.48E-15	1.11E-00	1.63E+01	1.64E-01	1.19E+02	7.59E-01	7.93E-03	3.85E-03	1.70E-01
692-1 3 800	0.80	1.98E+01	6.10E-01	7.34E-03	3.00E-15	1.20E-00	1.06E+01	2.03E-01	1.19E+02	6.00E-01	4.48E-03	3.85E-03	1.70E-01
692-1 3 900	0.90	1.89E+01	8.46E-01	5.51E-03	3.39E-15	1.66E-00	8.12E-00	2.47E-01	1.17E+02	6.44E-01	2.36E-03	3.85E-03	1.70E-01
692-1 3 1000	1.00	1.86E+01	1.27E-00	4.99E-03	3.92E-15	2.50E-00	7.19E-00	2.99E-01	1.16E+02	5.47E-01	1.35E-03	3.85E-03	1.70E-01
692-1 3 1100	1.10	1.83E+01	1.58E-00	4.92E-03	3.95E-15	3.09E-00	7.00E-00	3.51E-01	1.15E+02	4.67E-01	1.05E-03	3.85E-03	1.70E-01
692-1 3 1200	1.20	1.83E+01	1.89E-00	5.05E-03	4.28E-15	3.72E-00	7.01E-00	4.07E-01	1.15E+02	5.50E-01	8.72E-04	3.85E-03	1.70E-01
692-1 3 1350	1.35	1.84E+01	2.39E-00	5.87E-03	5.59E-15	4.70E-00	8.03E-00	**4.80E-01**	**1.14E+02**	**5.37E-01**	7.91E-04	3.85E-03	1.70E-01
692-1 3 1500	1.50	1.85E+01	2.65E-00	6.28E-03	6.09E-15	5.21E-00	8.49E-00	**5.60E-01**	**1.14E+02**	**4.42E-01**	7.59E-04	3.85E-03	1.70E-01
692-1 3 1750	1.75	1.87E+01	3.08E-00	7.48E-03	6.35E-15	6.06E-00	1.00E+01	**6.44E-01**	**1.14E+02**	**4.17E-01**	7.81E-04	3.85E-03	1.70E-01
692-1 3 2000	2.00	1.92E+01	3.03E-00	9.13E-03	4.88E-15	5.96E-00	1.23E+01	**7.08E-01**	**1.14E+02**	**4.29E-01**	1.01E-03	3.85E-03	1.70E-01
692-1 3 2500	2.50	1.94E+01	2.92E-00	9.68E-03	5.78E-15	5.75E-00	1.31E+01	**7.84E-01**	**1.14E+02**	**3.13E-01**	1.12E-03	3.85E-03	1.70E-01
692-1 3 3000	3.00	2.01E+01	2.56E-00	1.17E-02	4.24E-15	5.03E-00	1.57E+01	**8.39E-01**	**1.14E+02**	**5.99E-01**	1.60E-03	3.85E-03	1.70E-01
692-1 3 4000	4.00	2.03E+01	2.50E-00	1.22E-02	3.93E-15	4.91E-00	1.64E+01	**8.91E-01**	**1.14E+02**	**5.80E-01**	1.72E-03	3.85E-03	1.70E-01
692-1 3 6000	6.00	2.05E+01	2.68E-00	1.31E-02	4.48E-15	5.27E-00	1.74E+01	**9.50E-01**	**1.14E+02**	**6.57E-01**	1.72E-03	3.85E-03	1.70E-01
692-1 3 8000	8.00	2.12E+01	2.15E-00	1.48E-02	2.95E-15	4.23E-00	1.95E+01	**9.88E-01**	**1.15E+02**	**8.28E-01**	2.49E-03	3.85E-03	1.70E-01
692-1 3 10000	10.00	2.17E+01	2.56E-00	1.66E-02	7.76E-16	5.02E-00	2.14E+01	**9.99E-01**	**1.15E+02**	**2.04E-00**	2.35E-03	3.85E-03	1.70E-01
692-1 3 15000	15.00	2.04E+01	3.48E-00	1.57E-02	3.87E-17	6.84E-00	2.09E+01	9.99E-01	1.09E+02	4.90E+01	1.58E-03	3.85E-03	1.70E-01
692-1 3 20000	20.00	2.21E+01	3.05E-00	8.33E-03	5.15E-17	5.99E-00	9.62E-00	10.00E-01	1.34E+02	3.02E+01	8.99E-04	3.85E-03	1.70E-01

Plateau age = 113.9±0.2 Ma
(2s, including J-error of .17%)

MSWD = 1.06, probability = 0.39
59.2% of the 39Ar, steps 23 through 32

692-3 hornblende single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	Al(36/37)	J	2 Sigma (%)
692-3 26 3000	3.00E-00	2.07E+01	4.37E-00	1.65E-02	3.16E-15	8.60E-00	2.12E+01	9.25E-02	1.18E+02	2.54E-00	1.41E-03	4.14E-03	1.35E-01
692-3 62 3000	3.00E-00	1.85E+01	4.44E-00	9.57E-03	4.40E-15	8.74E-00	1.26E+01	2.22E-01	1.17E+02	1.17E-00	7.33E-04	4.14E-03	1.35E-01
692-3 63 3000	3.00E-00	1.75E+01	4.22E-00	6.16E-03	3.49E-15	8.31E-00	7.70E-00	3.24E-01	1.17E+02	1.80E-00	4.45E-04	4.14E-03	1.35E-01
692-3 65 3000	3.00E-00	1.86E+01	4.53E-00	1.01E-02	2.97E-15	8.92E-00	1.34E+01	4.11E-01	1.17E+02	2.09E-00	7.68E-04	4.14E-03	1.35E-01
692-3 66 3000	3.00E-00	1.78E+01	4.17E-00	7.82E-03	5.04E-15	8.20E-00	1.04E+01	5.59E-01	1.16E+02	1.18E-00	6.17E-04	4.14E-03	1.35E-01
692-3 67 3000	3.00E-00	1.67E+01	3.63E-00	4.26E-03	2.37E-15	7.14E-00	5.10E-00	6.28E-01	1.15E+02	2.33E-00	3.26E-04	4.14E-03	1.35E-01
692-3 69 3000	3.00E-00	1.74E+01	4.64E-00	5.68E-03	4.02E-15	9.12E-00	6.68E-00	7.49E-01	1.18E+02	1.40E-00	3.48E-04	4.14E-03	1.35E-01
692-3 70 3000	3.00E-00	1.66E+01	3.36E-00	2.97E-03	4.91E-15	6.62E-00	3.01E-00	8.93E-01	1.17E+02	1.31E-00	2.06E-04	4.14E-03	1.35E-01
692-3 71 3000	3.00E-00	1.66E+01	3.50E-00	2.89E-03	2.96E-15	6.88E-00	2.79E-00	9.79E-01	1.17E+02	1.90E-00	1.83E-04	4.14E-03	1.35E-01
692-3 72 3000	3.00E-00	1.74E+01	4.97E-00	3.84E-03	7.07E-16	9.79E-00	3.33E-00	1.00E-00	1.22E+02	7.30E-00	1.61E-04	4.14E-03	1.35E-01

Mean age = 116.8±0.5 Ma
(2s, including J-error of .135%)
MSWD = 1.3, probability = 0.25

692-3 K-feldspar single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	Al (36/39)	J	2 Sigma (%)
692-3 25 98	10.00	1.68E+01	9.95E-01	2.89E-03	3.48E-15	1.95E-00	4.43E-00	**1.54E-02**	**1.16E+02**	**1.51E-00**	1.04E-03	4.14E-03	1.35E-01
692-3 49 186	10.00	1.68E+01	2.18E-01	2.17E-03	9.45E-15	4.27E-01	3.68E-00	**5.71E-02**	**1.17E+02**	**6.79E-01**	8.63E-04	4.14E-03	1.35E-01
692-3 50 176	10.00	1.65E+01	8.73E-02	1.09E-03	1.55E-14	1.71E-01	1.90E-00	**1.26E-01**	**1.17E+02**	**5.21E-01**	4.39E-04	4.14E-03	1.35E-01
692-3 51 231	10.00	1.65E+01	6.95E-02	1.33E-03	2.26E-14	1.36E-01	2.34E-00	**2.25E-01**	**1.16E+02**	**4.88E-01**	5.41E-04	4.14E-03	1.35E-01
692-3 52 330	10.00	1.68E+01	1.61E-01	2.24E-03	2.12E-14	3.16E-01	3.84E-00	**3.19E-01**	**1.17E+02**	**3.60E-01**	9.03E-04	4.14E-03	1.35E-01
692-3 53 242	10.00	1.71E+01	7.67E-01	3.72E-03	8.39E-15	1.51E-00	5.95E-00	**3.56E-01**	**1.16E+02**	**6.72E-01**	1.42E-03	4.14E-03	1.35E-01
692-3 54 253	10.00	1.63E+01	7.71E-02	7.09E-04	2.39E-14	1.51E-01	1.23E-00	**4.61E-01**	**1.17E+02**	**3.17E-01**	2.81E-04	4.14E-03	1.35E-01
692-3 55 172	10.00	1.63E+01	4.95E-02	5.68E-04	1.25E-14	9.70E-02	9.95E-01	**5.17E-01**	**1.17E+02**	**4.86E-01**	2.27E-04	4.14E-03	1.35E-01
692-3 56 397	10.00	1.76E+01	1.69E-01	5.27E-03	2.70E-14	3.32E-01	8.74E-00	**6.36E-01**	**1.16E+02**	**4.25E-01**	2.16E-03	4.14E-03	1.35E-01
692-3 57 64	10.00	1.70E+01	2.21E-01	3.23E-03	4.11E-15	4.34E-01	5.45E-00	**6.54E-01**	**1.16E+02**	**1.46E-00**	1.30E-03	4.14E-03	1.35E-01
692-3 58 70	10.00	1.66E+01	2.06E-01	1.58E-03	4.76E-15	4.04E-01	2.68E-00	**6.75E-01**	**1.17E+02**	**1.08E-00**	6.22E-04	4.14E-03	1.35E-01
692-3 59 373	10.00	1.91E+01	1.82E-01	1.00E-02	2.55E-14	3.57E-01	1.54E+01	**7.87E-01**	**1.17E+02**	**5.53E-01**	4.13E-03	4.14E-03	1.35E-01
692-3 60 128	10.00	1.64E+01	8.89E-02	7.43E-04	1.20E-14	1.74E-01	1.28E-00	**8.40E-01**	**1.17E+02**	**4.20E-01**	2.94E-04	4.14E-03	1.35E-01
692-3 133 61	10.00	1.68E+01	2.27E-01	1.85E-03	4.29E-15	4.45E-01	3.11E-00	**8.59E-01**	**1.17E+02**	**1.86E-00**	7.30E-04	4.14E-03	1.35E-01
692-3 134 65	10.00	1.62E+01	1.28E-01	7.76E-04	5.31E-15	2.52E-01	1.32E-00	**8.83E-01**	**1.16E+02**	**1.30E-00**	3.01E-04	4.14E-03	1.35E-01
692-3 135 41	10.00	1.65E+01	9.45E-02	5.90E-04	3.26E-15	1.85E-01	9.96E-01	**8.97E-01**	**1.18E+02**	**2.00E-00**	2.30E-04	4.14E-03	1.35E-01
692-3 136 26	10.00	1.69E+01	3.11E-01	3.57E-03	1.87E-15	6.09E-01	6.04E-00	**9.05E-01**	**1.15E+02**	**3.85E-00**	1.43E-03	4.14E-03	1.35E-01
692-3 137 58	10.00	1.65E+01	1.67E-01	1.66E-03	3.81E-15	3.28E-01	2.87E-00	**9.22E-01**	**1.16E+02**	**1.77E-00**	6.62E-04	4.14E-03	1.35E-01
692-3 138 22	10.00	1.67E+01	1.87E-01	2.68E-03	2.28E-15	3.67E-01	4.60E-00	**9.32E-01**	**1.15E+02**	**2.36E-00**	1.08E-03	4.14E-03	1.35E-01
692-3 139 23	10.00	1.63E+01	1.23E-01	8.73E-04	2.92E-15	2.40E-01	1.50E-00	**9.45E-01**	**1.16E+02**	**2.07E-00**	3.42E-04	4.14E-03	1.35E-01
692-3 140 53	10.00	1.66E+01	2.12E-01	1.10E-03	3.49E-15	4.15E-01	1.82E-00	**9.60E-01**	**1.17E+02**	**1.72E-00**	4.21E-04	4.14E-03	1.35E-01
692-3 141 51	10.00	1.65E+01	1.76E-01	1.34E-03	4.49E-15	3.44E-01	2.29E-00	**9.80E-01**	**1.16E+02**	**1.04E-00**	5.29E-04	4.14E-03	1.35E-01
692-3 144 46	10.00	1.65E+01	1.48E-01	1.53E-03	4.49E-15	2.89E-01	2.65E-00	**1.00E-00**	**1.16E+02**	**1.24E-00**	6.12E-04	4.14E-03	1.35E-01

Mean age = 116.3±0.2 Ma
(2s, including J-error of .135%)
MSWD = 0.71, probability = 0.83

693-2 plagioclase single-crystal analyses

Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	Al (36/37)	J	2 Sigma (%)
693-2 90 10000	10.00	1.66E+01	1.49E-00	2.18E-03	4.55E-15	2.93E-00	2.89E-00	**1.52E-01**	**1.16E+02**	**1.01E-00**	4.52E-04	4.14E-03	1.35E-01
693-2 101 477	10.00	1.73E+01	3.44E-00	2.87E-03	7.47E-15	6.77E-00	2.73E-00	**4.02E-01**	**1.16E+02**	**4.11E-01**	1.82E-04	3.92E-03	2.30E-01
693-2 102 266	10.00	1.71E+01	2.54E-00	1.84E-03	2.98E-15	5.00E-00	1.55E-00	**5.02E-01**	**1.16E+02**	**7.01E-01**	1.39E-04	3.92E-03	2.30E-01
693-2 103 129	10.00	1.71E+01	1.24E-00	7.71E-04	2.27E-15	2.44E-00	5.41E-01	**5.78E-01**	**1.17E+02**	**8.00E-01**	9.88E-05	3.92E-03	2.30E-01
693-2 104 165	10.00	1.70E+01	6.83E-01	4.23E-04	3.93E-15	1.34E-00	2.98E-01	**7.09E-01**	**1.16E+02**	**4.32E-01**	9.85E-05	3.92E-03	2.30E-01
693-2 1 168	10.00	1.84E+01	6.03E-01	5.12E-03	3.43E-15	1.18E-00	7.88E-00	**8.24E-01**	**1.16E+02**	**5.42E-01**	3.18E-03	3.92E-03	2.30E-01
693-2 11 251	10.00	1.90E+01	7.13E-01	7.77E-03	5.25E-15	1.40E-00	1.17E+01	**1.00E-00**	**1.15E+02**	**4.16E-01**	4.13E-03	3.92E-03	2.30E-01

Mean age = 115.6±0.5 Ma (2s, including J-error of .230%)
MSWD = 0.77, probability = 0.59

693-2 hornblende single-crystal analyses

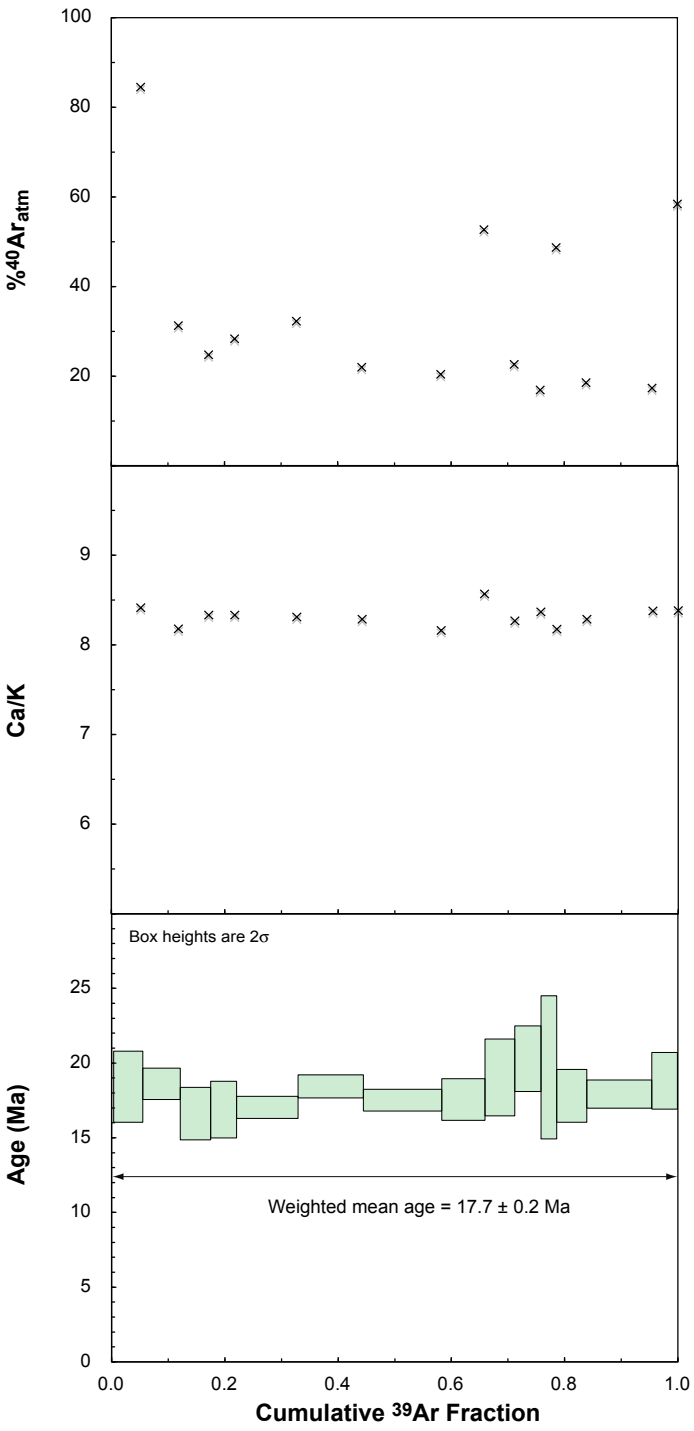
Analysis	Laser power (W)	40Ar/39Ar	37Ar/39Ar	36Ar/39Ar	Mol 39ArK	Ca/K	% 40ArA	Cum 39ArK	Age (Ma)	2 Sigma (Ma)	AI (36/37)	J	2 Sigma (%)
693-2 1 3000	3.00	1.87E+01	3.89E-00	9.49E-03	4.71E-15	7.65E-00	1.27E+01	**9.96E-02**	**1.18E+02**	**1.76E-00**	8.45E-04	4.14E-03	1.35E-01
693-2 2 3000	3.00	1.66E+01	4.58E-00	3.37E-03	4.03E-15	9.01E-00	2.92E-00	**1.85E-01**	**1.17E+02**	**1.24E-00**	1.39E-04	4.14E-03	1.35E-01
693-2 3 3000	3.00	1.66E+01	4.29E-00	3.21E-03	4.26E-15	8.43E-00	2.85E-00	**2.75E-01**	**1.17E+02**	**1.65E-00**	1.45E-04	4.14E-03	1.35E-01
693-2 4 3000	3.00	1.66E+01	4.42E-00	2.88E-03	5.28E-15	8.69E-00	2.16E-00	**3.86E-01**	**1.18E+02**	**1.28E-00**	1.05E-04	4.14E-03	1.35E-01
693-2 5 3000	3.00	1.69E+01	3.96E-00	3.54E-03	1.37E-15	7.80E-00	3.56E-00	**4.15E-01**	**1.18E+02**	**4.28E-00**	2.04E-04	4.14E-03	1.35E-01
693-2 7 3000	3.00	1.65E+01	4.37E-00	2.28E-03	3.72E-15	8.61E-00	1.13E-00	**5.97E-01**	**1.18E+02**	**2.19E-00**	5.06E-05	4.14E-03	1.35E-01
693-2 8 3000	3.00	1.70E+01	4.86E-00	4.56E-03	5.31E-15	9.56E-00	4.75E-00	**7.09E-01**	**1.17E+02**	**1.63E-00**	2.23E-04	4.14E-03	1.35E-01
693-2 9 3000	3.00	1.68E+01	2.98E-00	3.40E-03	7.39E-15	5.86E-00	4.02E-00	**8.65E-01**	**1.16E+02**	**1.23E-00**	3.07E-04	4.14E-03	1.35E-01
693-2 10 3000	3.00	1.71E+01	5.06E-00	4.48E-03	3.49E-15	9.97E-00	4.44E-00	**9.39E-01**	**1.19E+02**	**2.59E-00**	2.01E-04	4.14E-03	1.35E-01
693-2 11 3000	3.00	1.70E+01	4.18E-00	4.16E-03	2.88E-15	8.23E-00	4.49E-00	**10.00E-01**	**1.18E+02**	**2.38E-00**	2.46E-04	4.14E-03	1.35E-01

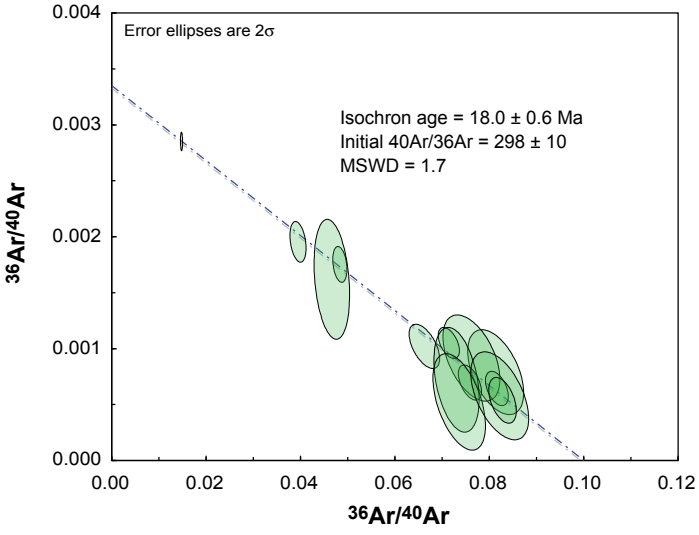
Mean age = 117.0±0.5 Ma
(2s, including J-error of .135%)
MSWD = 0.78, probability = 0.64

Single-crystal and heating-step isotope ratios, ages and J-values are calculated with a TCR monitor age of 27.92 Ma. Mean and plateau ages are recalculated to TCR-2 monitor age of 27.87 Ma (Lanphere & Dalrymple, 2000) and include J-error. Accepted single-crystal analyses and plateau steps boldface. MSWD = SumS/(n-1). Probability from Chi Square tables. Alteration indices (Baksi, 2007) for K-feldspar, biotite, K-rich matrix (Ca/K<1) are here calculated as AI(36/39) = [(36Ar/39Ar) – (36Ar/37Ar)Ca x (37Ar/39Ar)] x (J/0.01). Alteration indices for plagioclase, hornblende, Ca-rich matrix (Ca/K>1) are calculated as AI(36/37) = [(36Ar/39Ar) – (36Ar/37Ar)Ca x (37Ar/39Ar)] x (J/0.01)/ (37Ar/39Ar). (36Ar/37Ar)Ca = 0.0004.

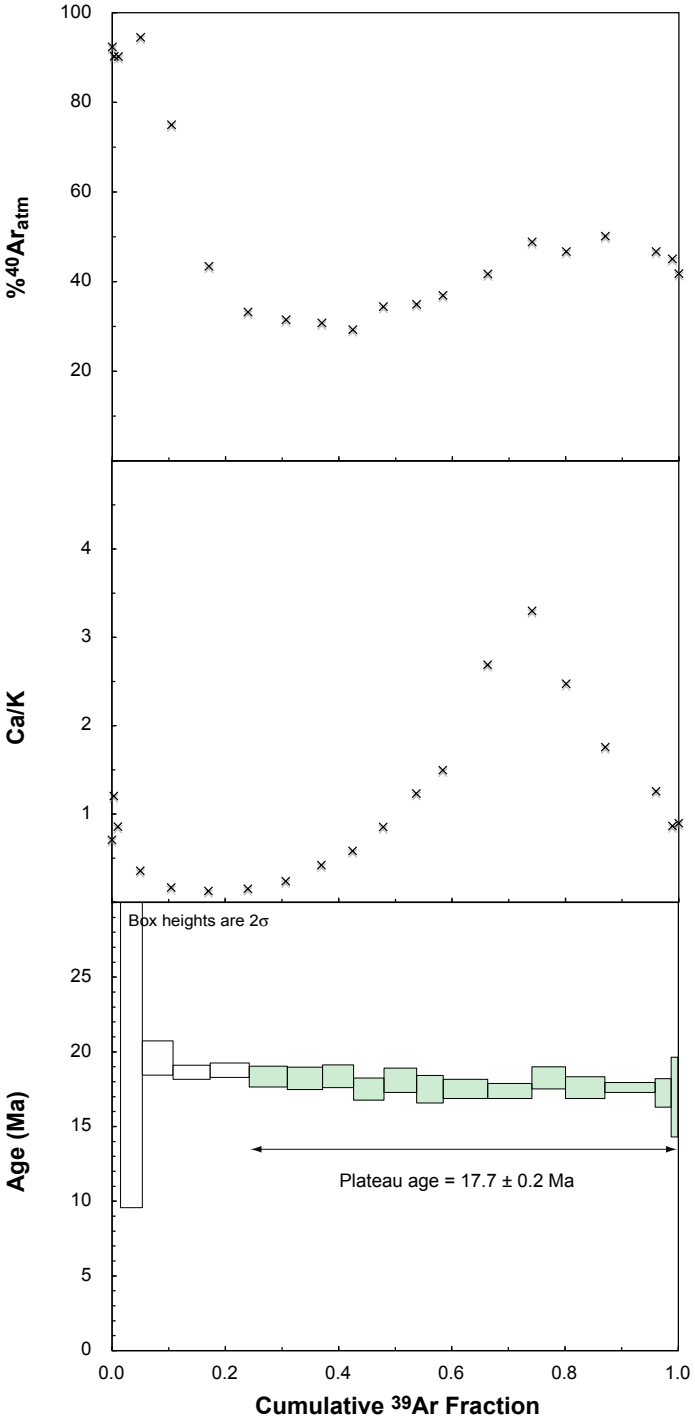
Supplementary information S4: Age spectra, Ca/K-ratios, $\%^{40}Ar_{atm}$, and isotope correlation diagrams (inverse isochrons; x-values scaled to J = 1E-3).

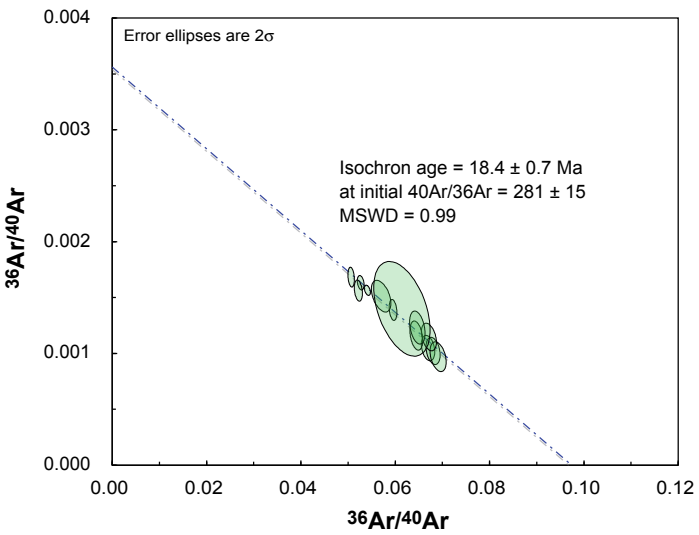
794-1 hornblende single-crystal analyses

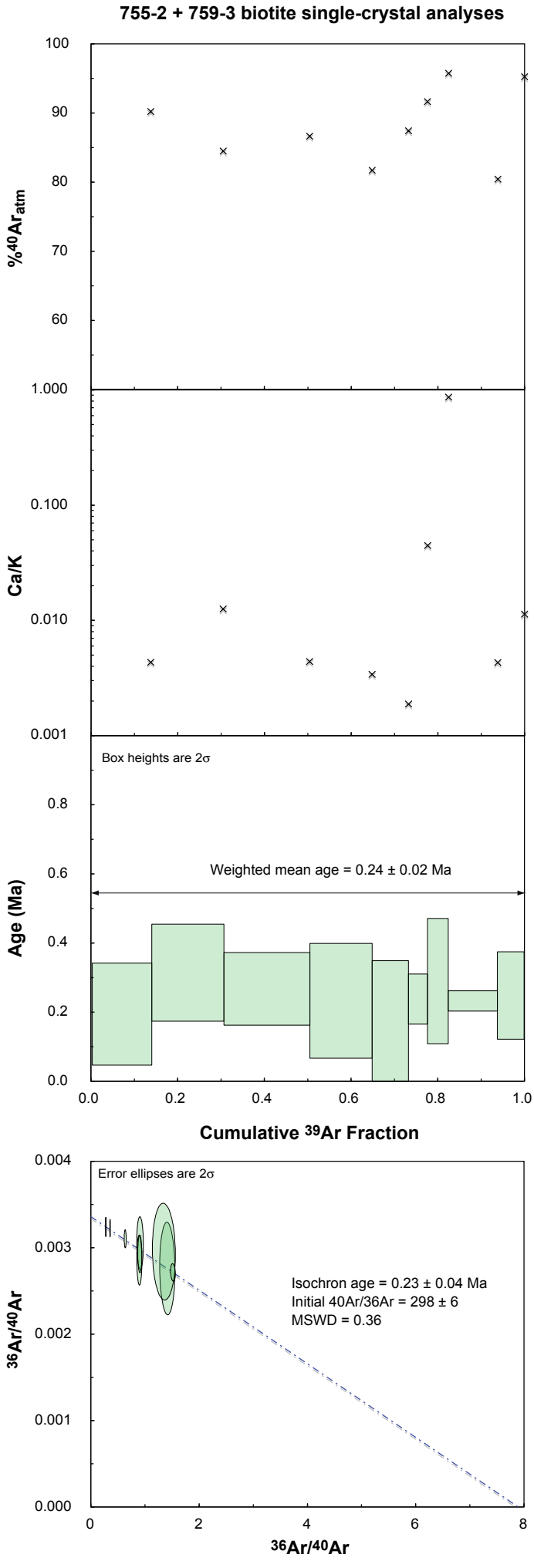




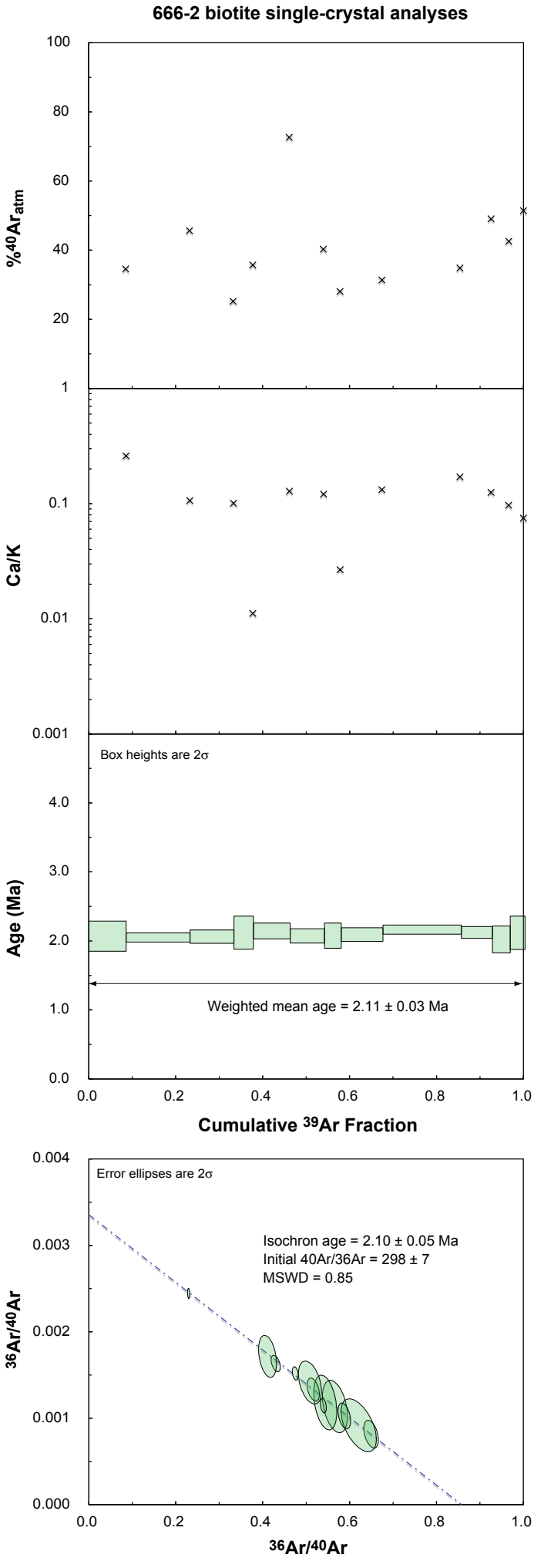
794-1 matrix step-heating analysis



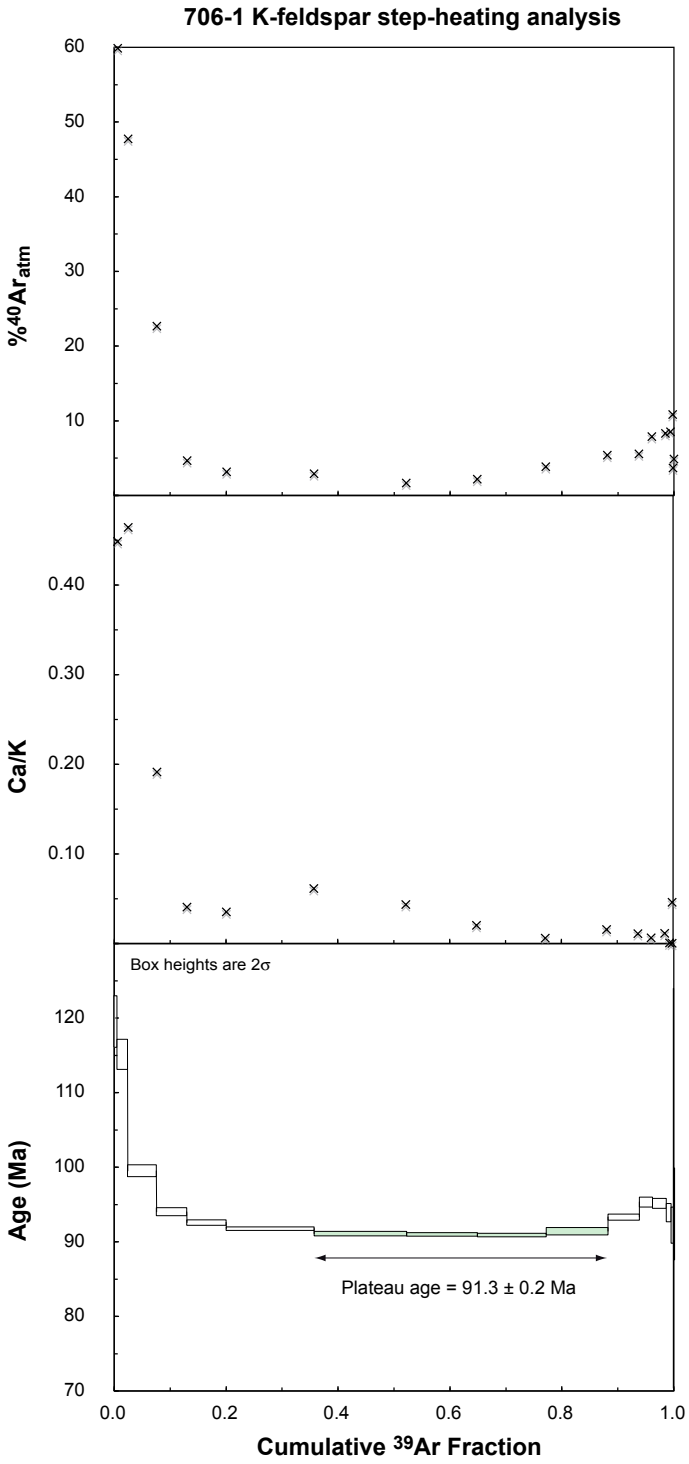


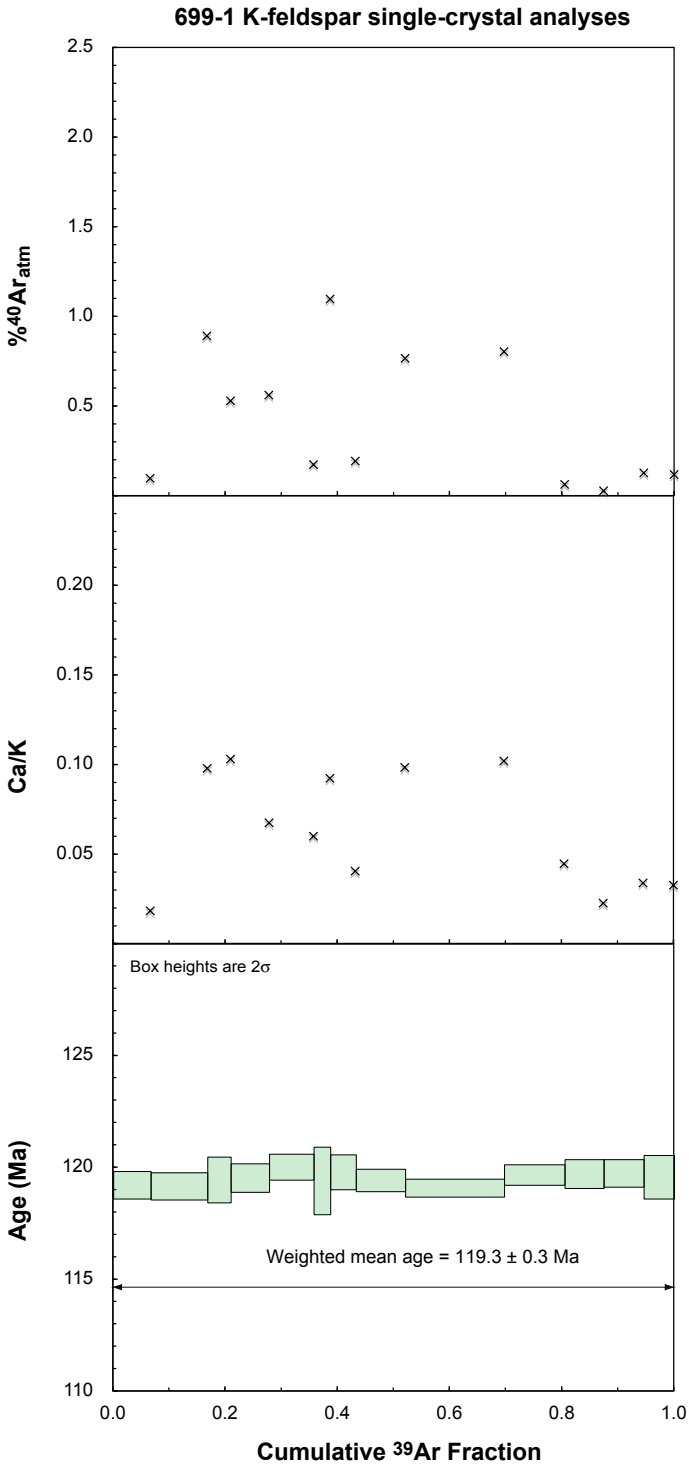

755-2 + 759-3 biotite single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Weighted mean age = 0.24 ± 0.02 Ma
Age (Ma)
Cumulative 39Ar Fraction

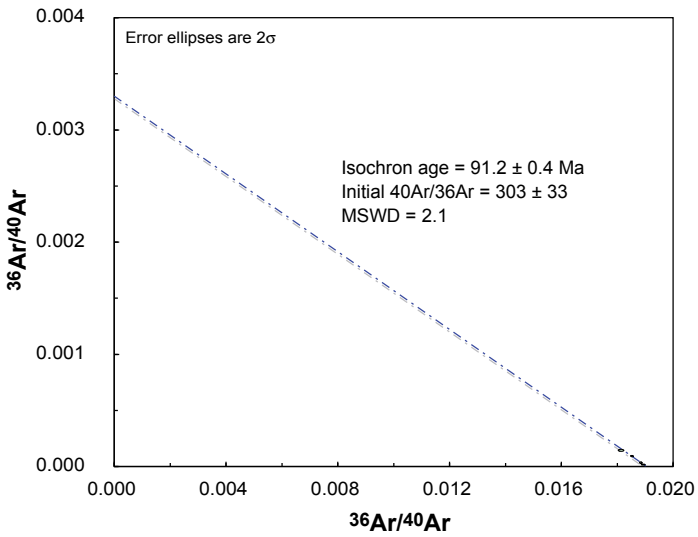
Error ellipses are 2σ
Isochron age = 0.23 ± 0.04 Ma
Initial 40Ar/36Ar = 298 ± 6
MSWD = 0.36
36Ar/40Ar

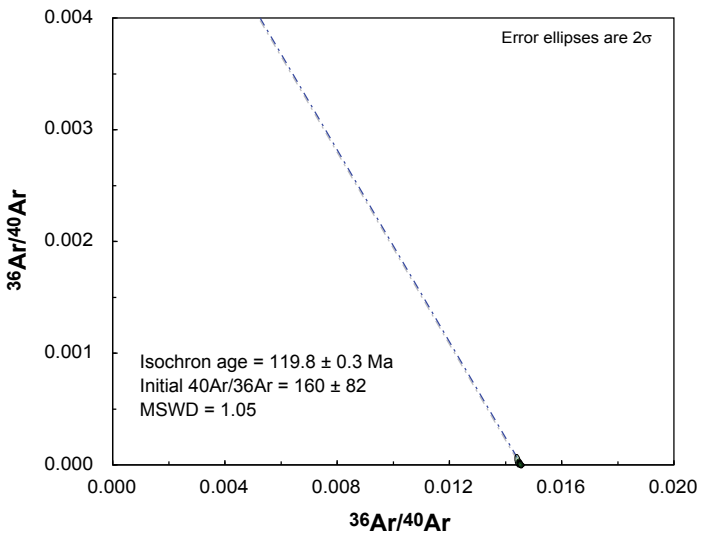

666-2 biotite single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Weighted mean age = 2.11 ± 0.03 Ma
Age (Ma)
Cumulative 39Ar Fraction

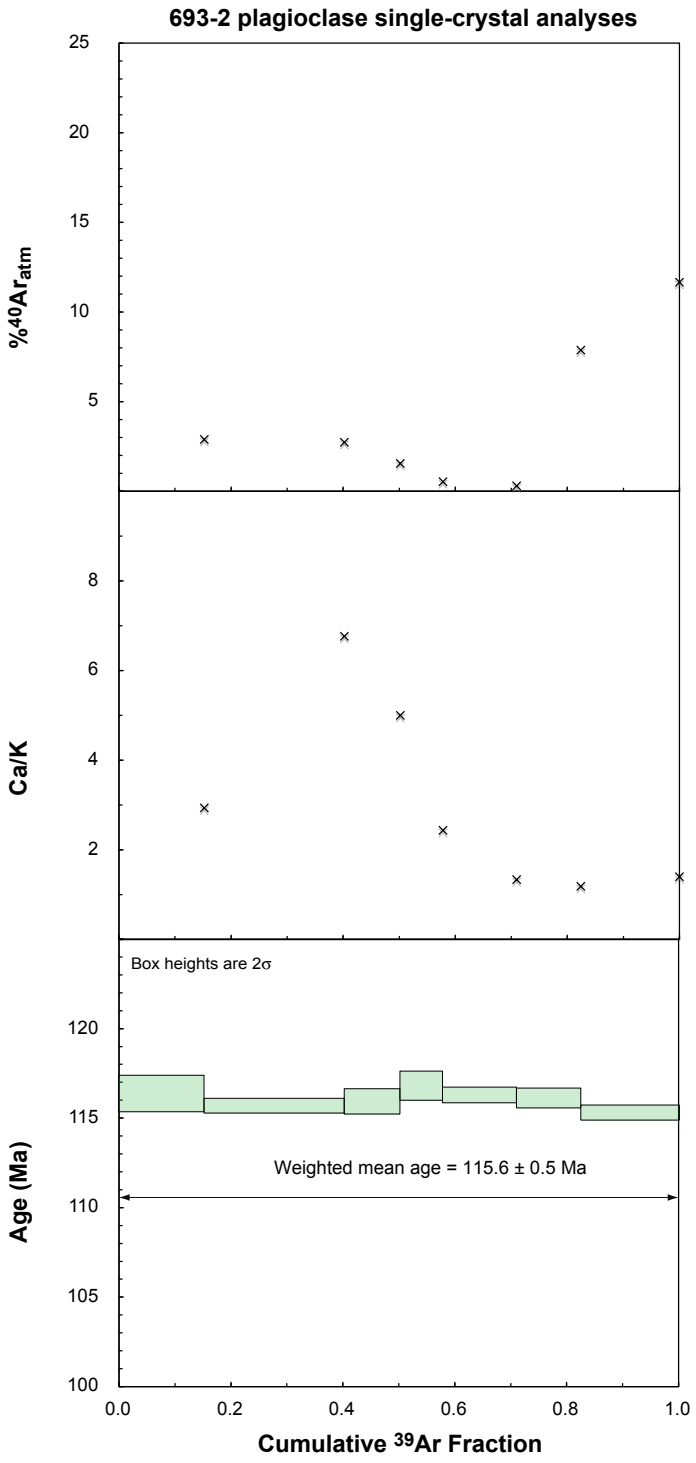
Error ellipses are 2σ
Isochron age = 2.10 ± 0.05 Ma
Initial 40Ar/36Ar = 298 ± 7
MSWD = 0.85
36Ar/40Ar

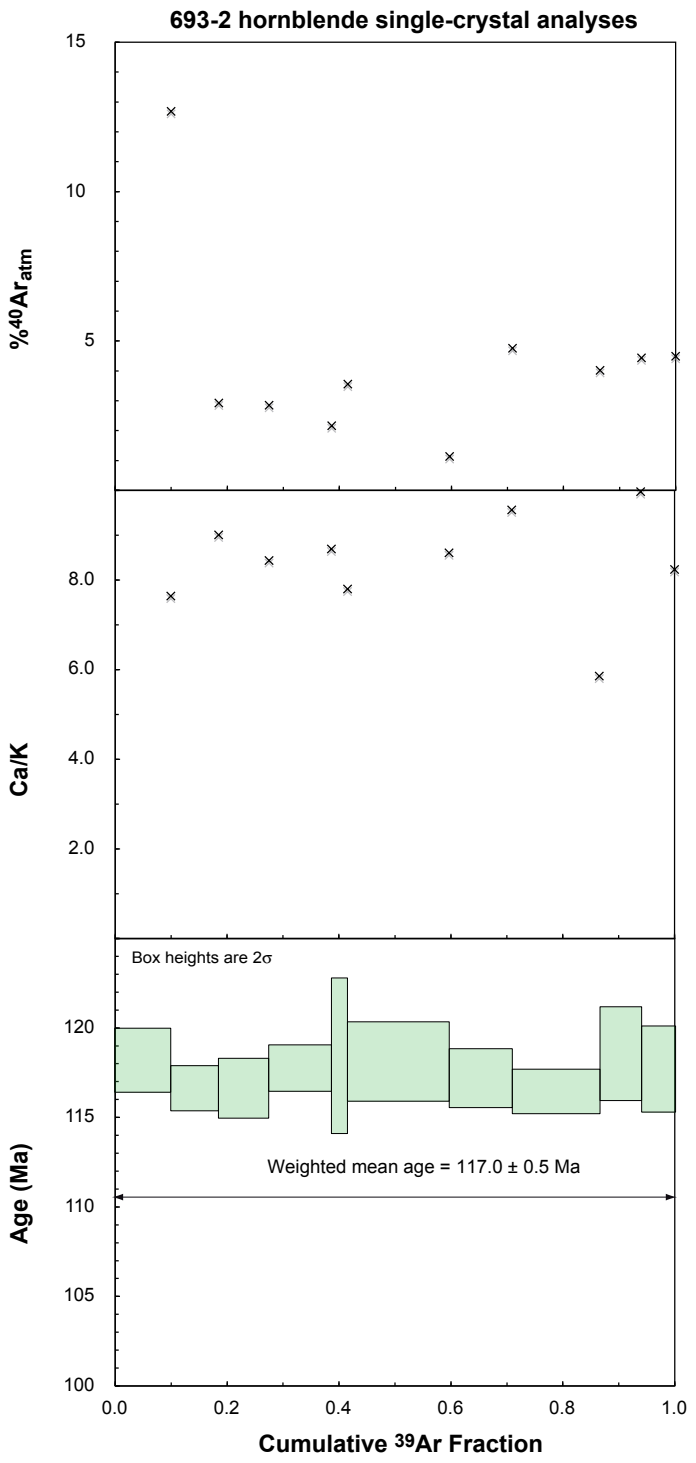

706-1 K-feldspar step-heating analysis
%40Aratm
Ca/K
Box heights are 2σ
Age (Ma)
Plateau age = 91.3 ± 0.2 Ma
Cumulative 39Ar Fraction

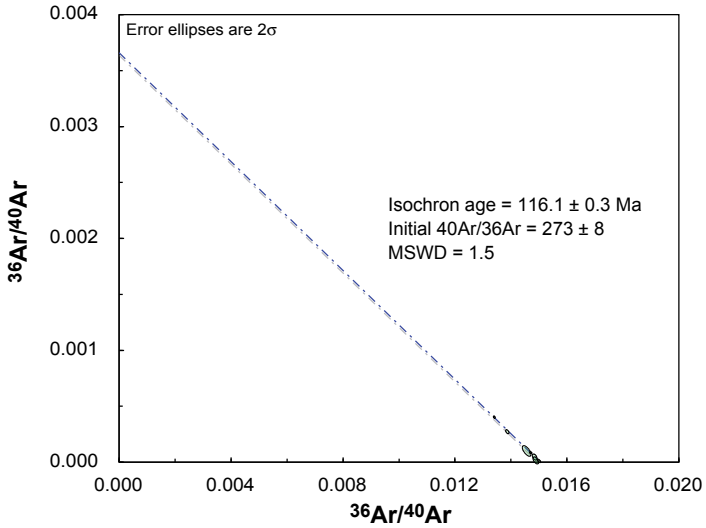

699-1 K-feldspar single-crystal analyses
%40Aratm
Ca/K
Box heights are 2σ
Age (Ma)
Weighted mean age = 119.3 ± 0.3 Ma
Cumulative 39Ar Fraction

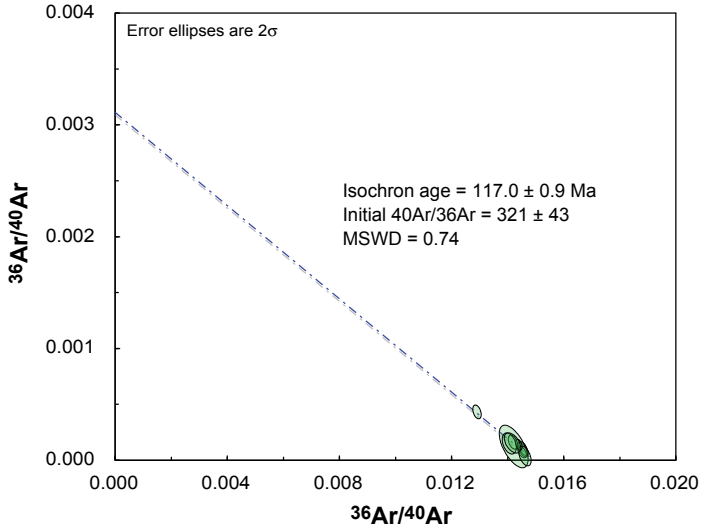

Error ellipses are 2σ
Isochron age = 91.2 ± 0.4 Ma
Initial 40Ar/36Ar = 303 ± 33
MSWD = 2.1
36Ar/40Ar
36Ar/40Ar

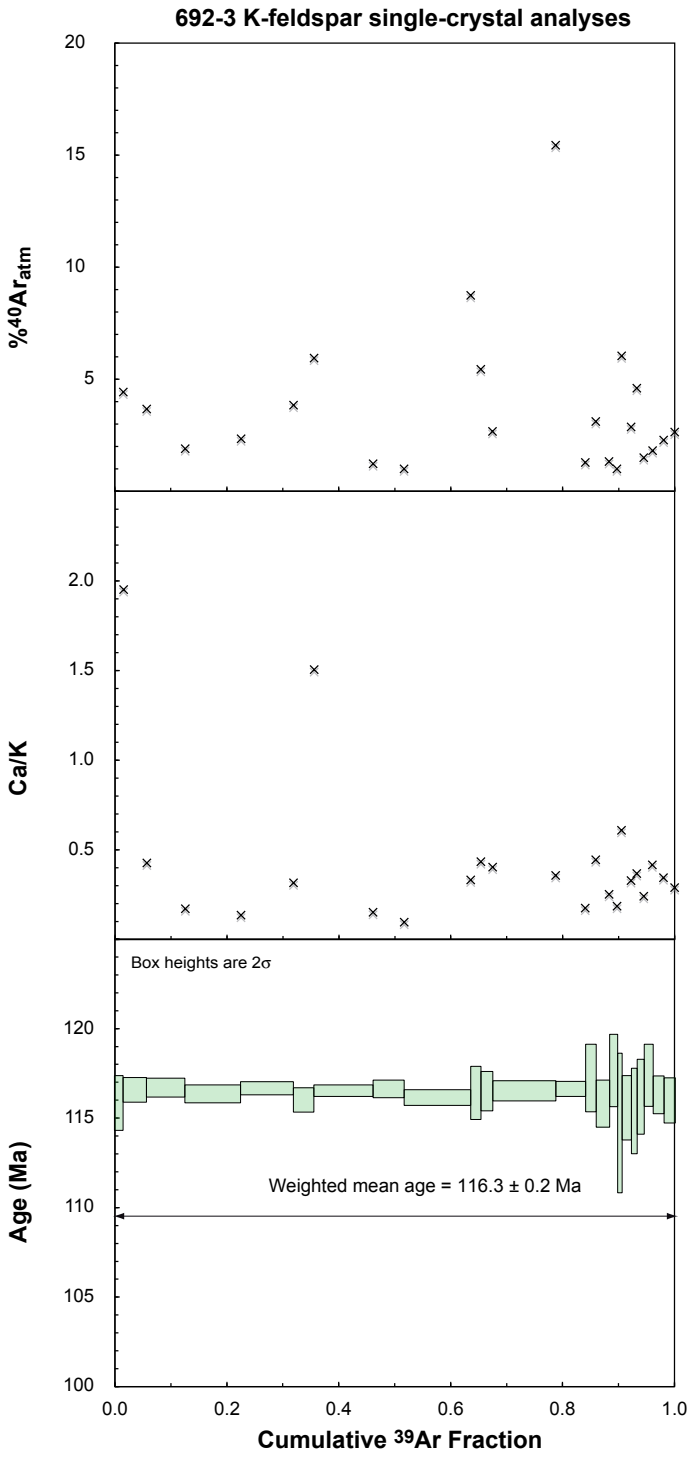

Error ellipses are 2σ
Isochron age = 119.8 ± 0.3 Ma
Initial 40Ar/36Ar = 160 ± 82
MSWD = 1.05
36Ar/40Ar
36Ar/40Ar

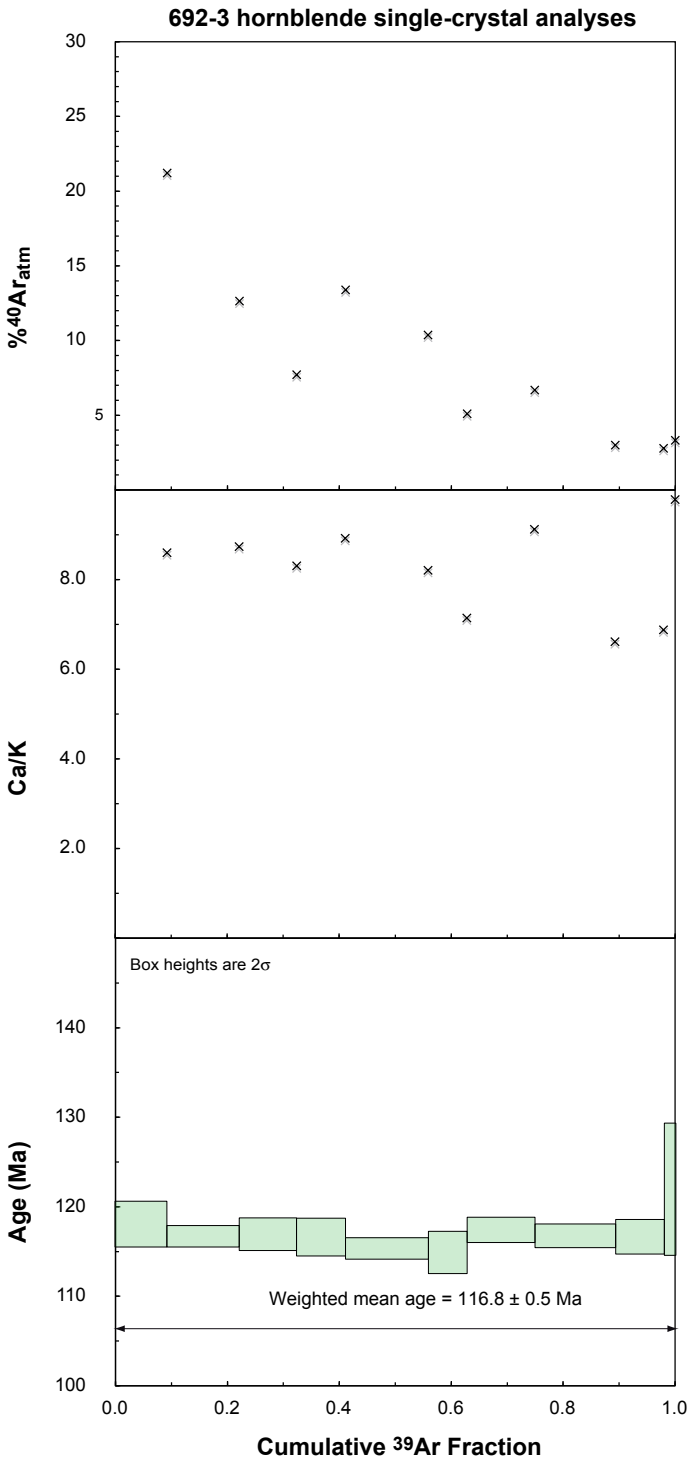

693-2 plagioclase single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Age (Ma)
Weighted mean age = 115.6 ± 0.5 Ma
Cumulative 39Ar Fraction

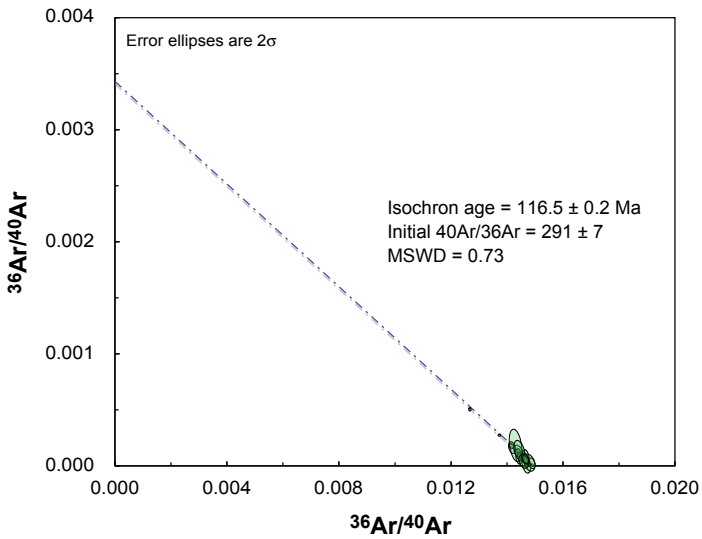

693-2 hornblende single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Age (Ma)
Weighted mean age = 117.0 ± 0.5 Ma
Cumulative 39Ar Fraction

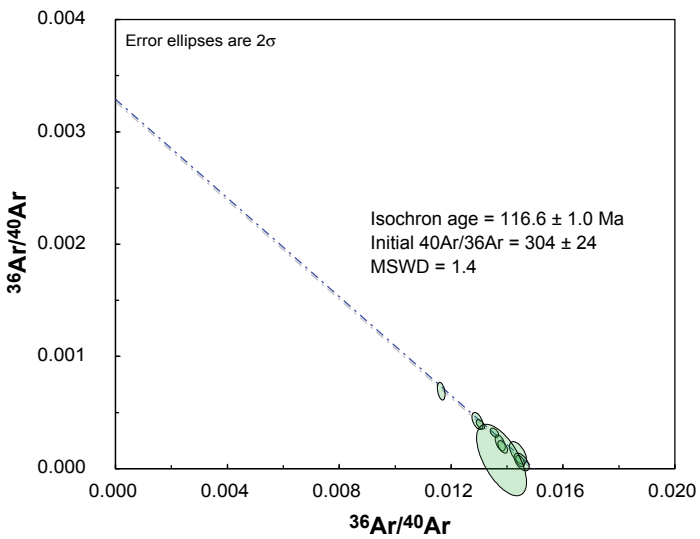

Error ellipses are 2σ
Isochron age = 116.1 ± 0.3 Ma
Initial 40Ar/36Ar = 273 ± 8
MSWD = 1.5
36Ar/40Ar
36Ar/40Ar

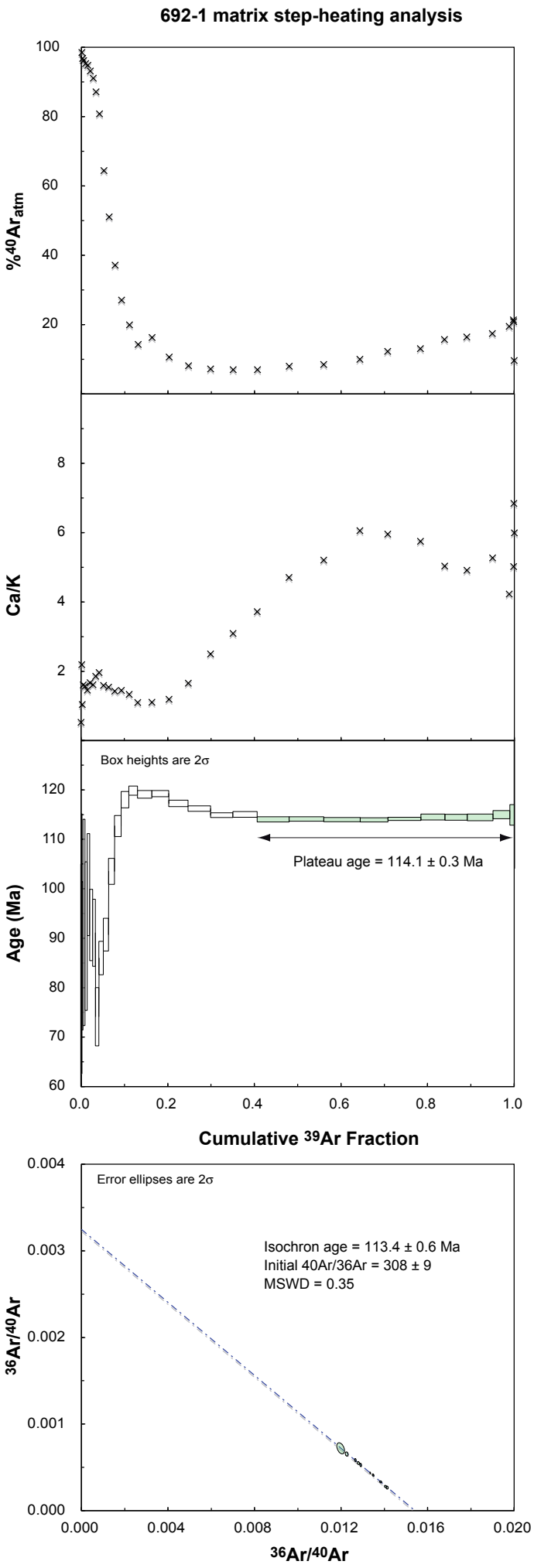

Error ellipses are 2σ
Isochron age = 117.0 ± 0.9 Ma
Initial 40Ar/36Ar = 321 ± 43
MSWD = 0.74
36Ar/40Ar
36Ar/40Ar

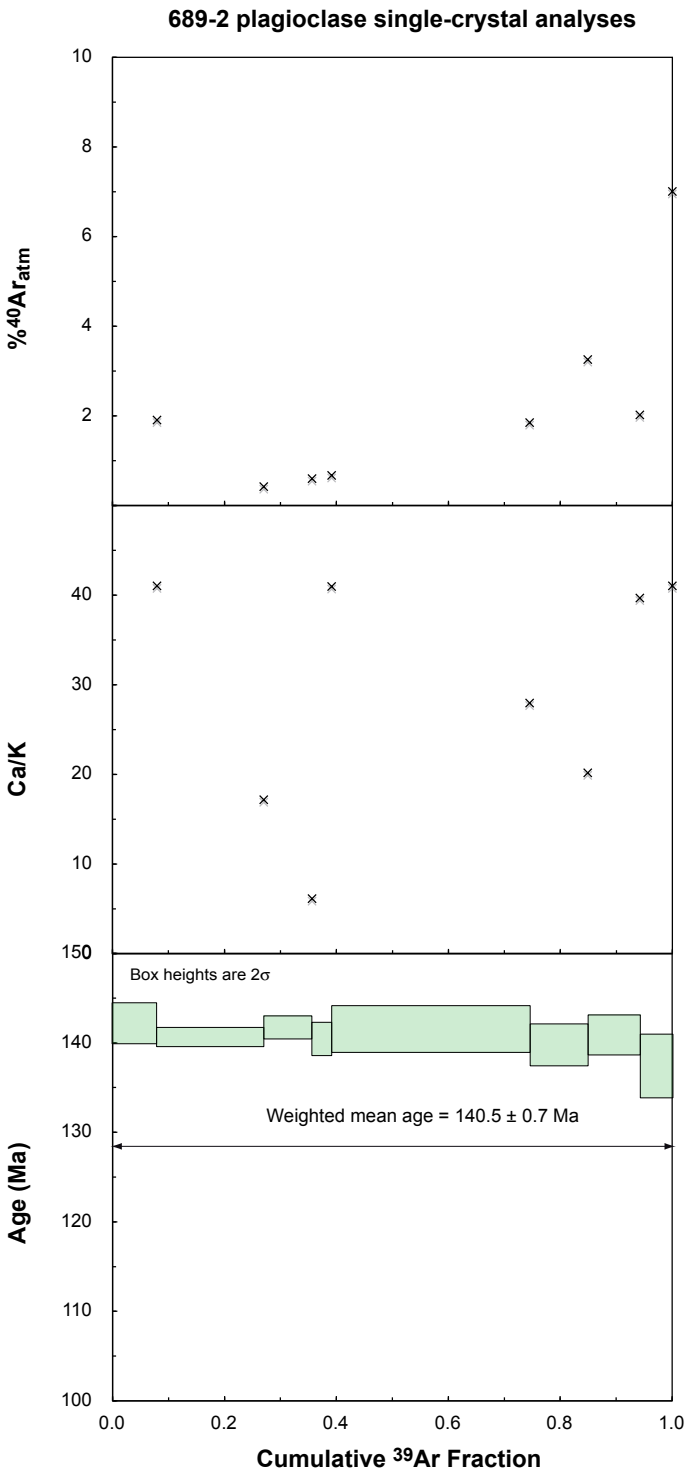

692-3 K-feldspar single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Age (Ma)
Weighted mean age = 116.3 ± 0.2 Ma
Cumulative 39Ar Fraction

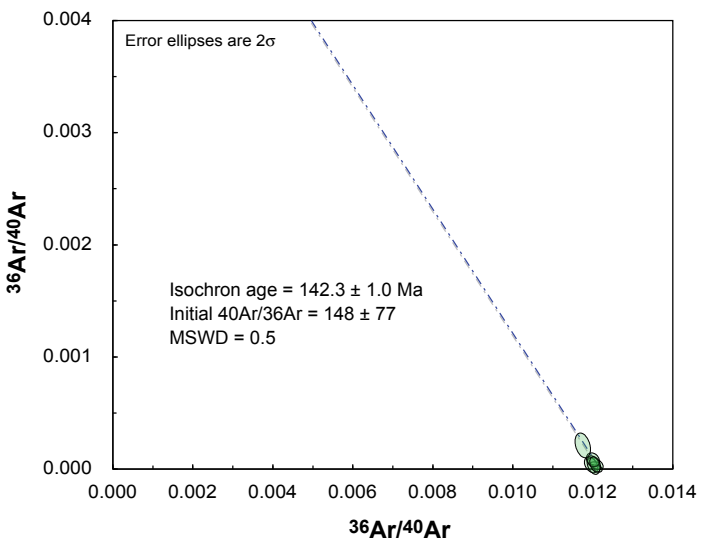

692-3 hornblende single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Age (Ma)
Weighted mean age = 116.8 ± 0.5 Ma
Cumulative 39Ar Fraction

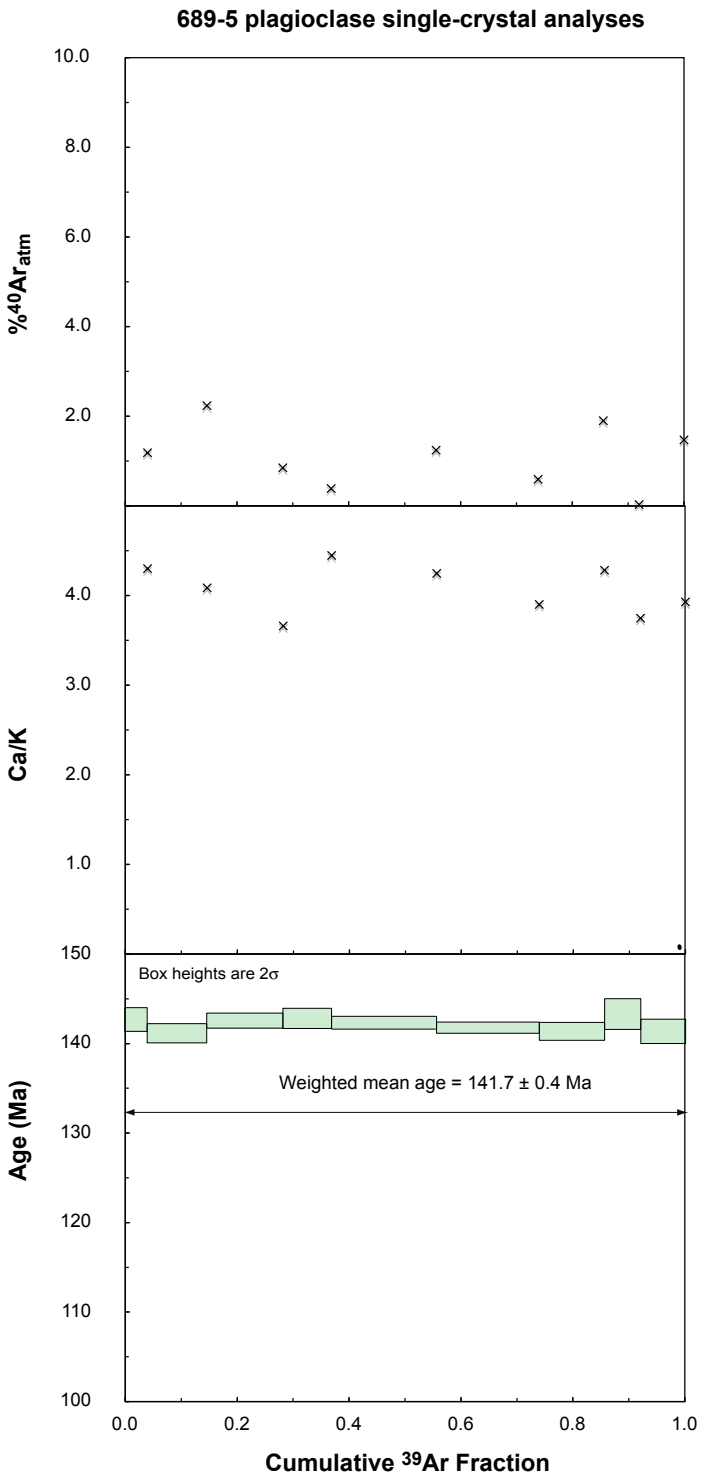

Error ellipses are 2σ
Isochron age = 116.5 ± 0.2 Ma
Initial 40Ar/36Ar = 291 ± 7
MSWD = 0.73
36Ar/40Ar
36Ar/40Ar

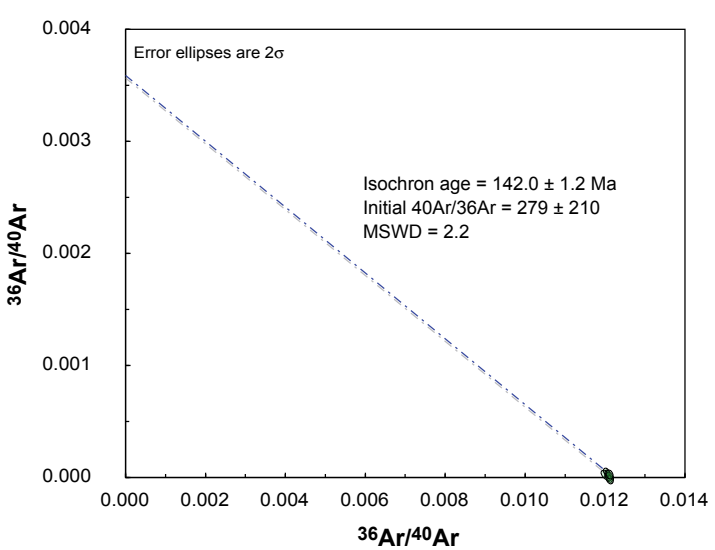

Error ellipses are 2σ
Isochron age = 116.6 ± 1.0 Ma
Initial 40Ar/36Ar = 304 ± 24
MSWD = 1.4
36Ar/40Ar
36Ar/40Ar

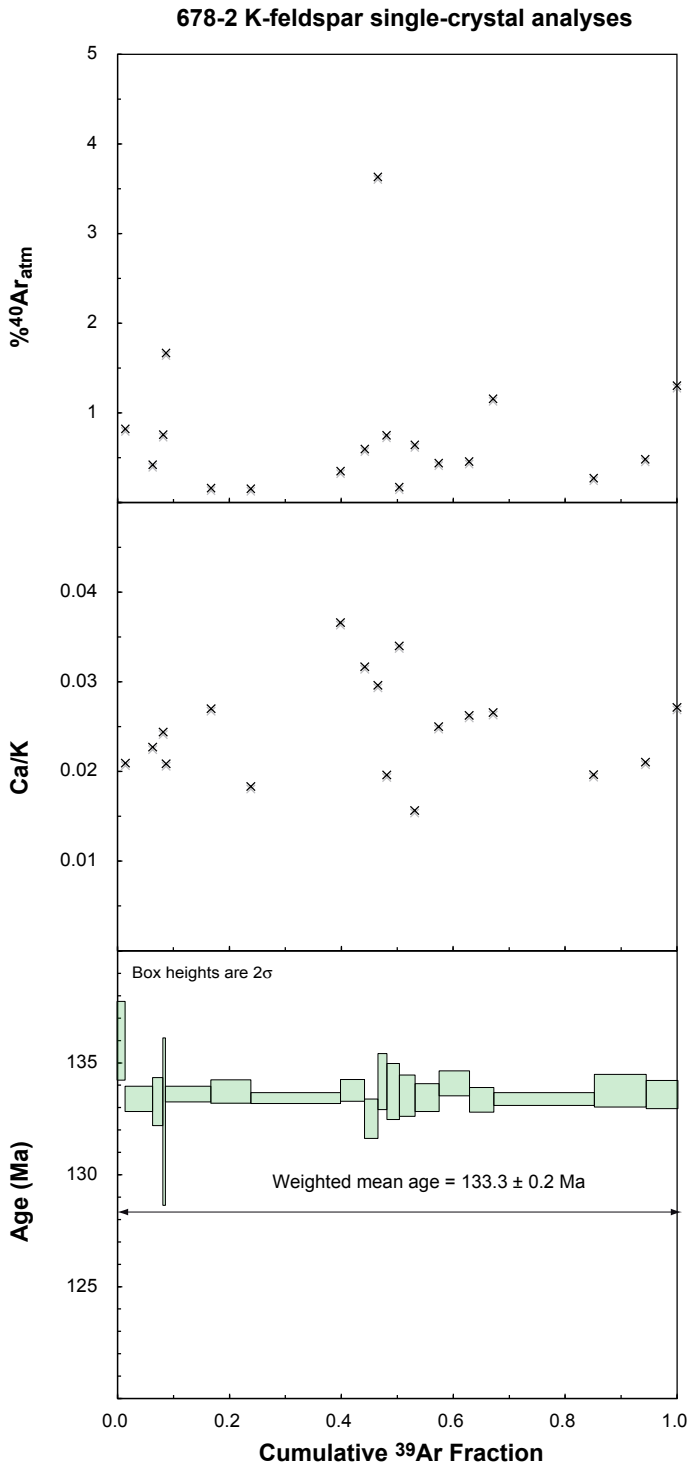

692-1 matrix step-heating analysis
%40Ar atm
Ca/K
Box heights are 2σ
Plateau age = 114.1 ± 0.3 Ma
Age (Ma)
Cumulative 39Ar Fraction
Error ellipses are 2σ
Isochron age = 113.4 ± 0.6 Ma
Initial 40Ar/36Ar = 308 ± 9
MSWD = 0.35
36Ar/40Ar

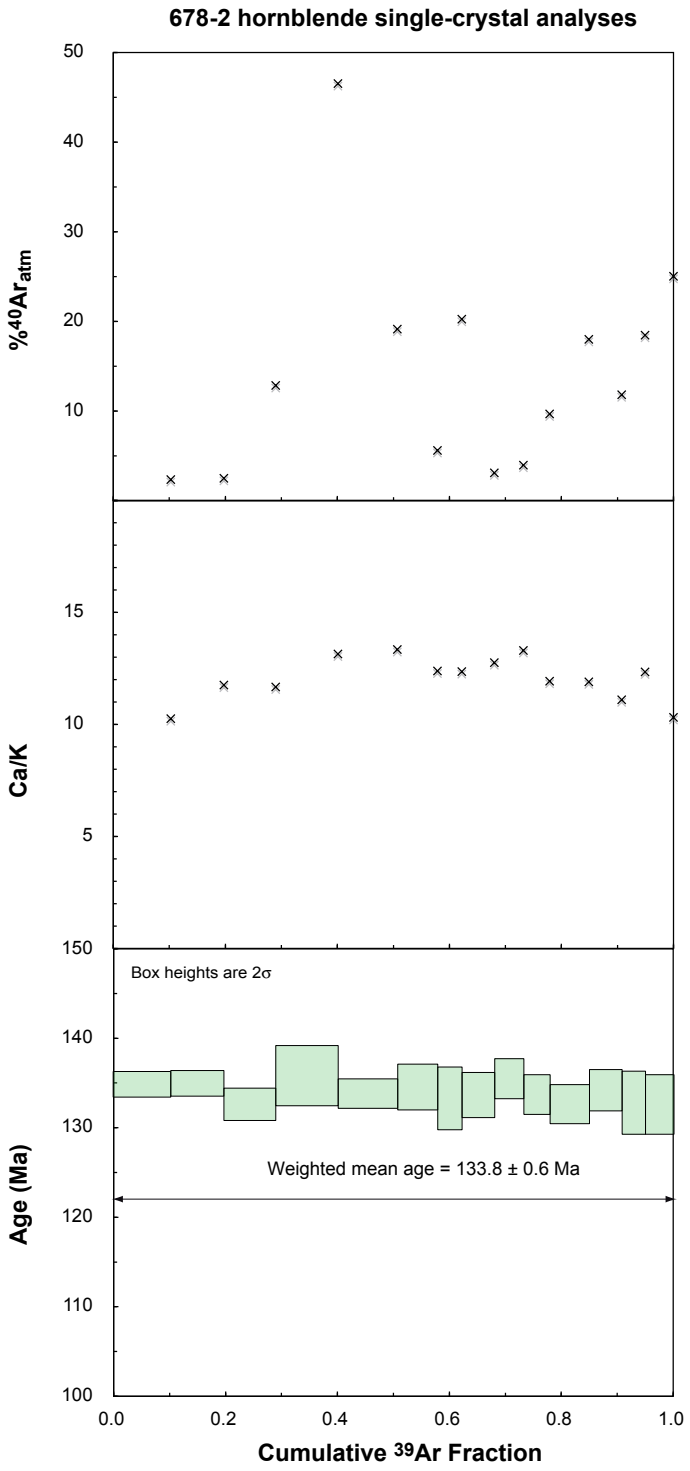

689-2 plagioclase single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Weighted mean age = 140.5 ± 0.7 Ma
Age (Ma)
Cumulative 39Ar Fraction

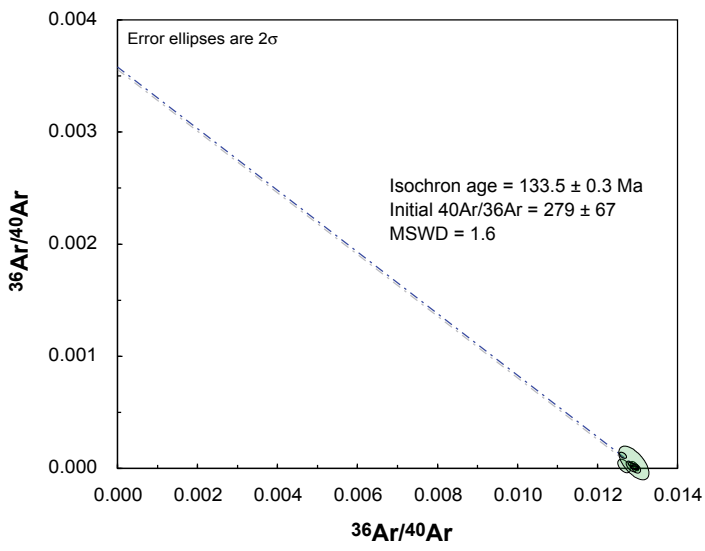

Error ellipses are 2σ
Isochron age = 142.3 ± 1.0 Ma
Initial 40Ar/36Ar = 148 ± 77
MSWD = 0.5
36Ar/40Ar
36Ar/40Ar

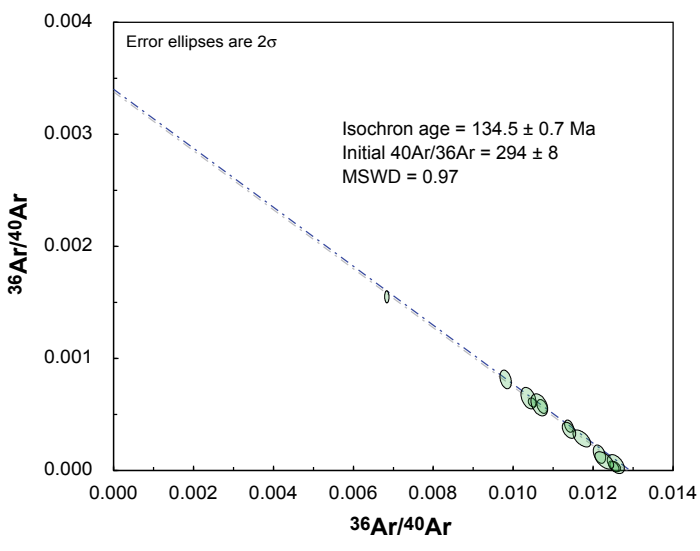

689-5 plagioclase single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Weighted mean age = 141.7 ± 0.4 Ma
Age (Ma)
Cumulative 39Ar Fraction


Error ellipses are 2σ
Isochron age = 142.0 ± 1.2 Ma
Initial 40Ar/36Ar = 279 ± 210
MSWD = 2.2
36Ar/40Ar
36Ar/40Ar


678-2 K-feldspar single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Age (Ma)
Weighted mean age = 133.3 ± 0.2 Ma
Cumulative 39Ar Fraction


678-2 hornblende single-crystal analyses
%40Ar atm
Ca/K
Box heights are 2σ
Age (Ma)
Weighted mean age = 133.8 ± 0.6 Ma
Cumulative 39Ar Fraction


Error ellipses are 2σ
Isochron age = 133.5 ± 0.3 Ma
Initial 40Ar/36Ar = 279 ± 67
MSWD = 1.6
36Ar/40Ar
36Ar/40Ar


Error ellipses are 2σ
Isochron age = 134.5 ± 0.7 Ma
Initial 40Ar/36Ar = 294 ± 8
MSWD = 0.97
36Ar/40Ar
36Ar/40Ar