TABLE DR1A. ^{40}Ar-^{39}Ar DATA FROM LASER STEP-HEATING EXPERIMENTS. ARGON DATA x 10^{-15} MOLES.

	$^{36}Ar_{(atm)}$	$^{37}Ar_{(Ca)}$	$^{38}Ar_{(Cl)}$	$^{39}Ar_{(K)}$	$^{40}Ar_{(Total)}$	Age (Ma)	±2σ	^{40}Ar*%	$^{39}Ar_{(K)}$%	Ca/K	±2σ	Cl/K	±2σ
Gabbro, amphibole (sample 60A, 0.150-0.250 mm, 4.2 mg, J = 0.0006427±0.0000038)													
1	0.1472	0.2304	0.0218	0.04711	56.599	297	22	23.2	0.7	9.23	0.55	0.316	0.033
2	0.01284	0.0869	0.0025	0.02273	5.658	93	16	33.0	0.3	7.21	0.58	0.075	0.010
3	0.00687	0.0387	0.0038	0.05149	4.205	48.3	3.6	51.7	0.7	1.42	0.09	0.050	0.005
4	0.00368	0.0292	0.0042	0.05280	3.094	43.6	2.4	64.9	0.8	1.04	0.10	0.054	0.006
5	0.00425	0.0526	0.0046	0.04256	2.839	42.7	3.6	55.8	0.6	2.33	0.12	0.074	0.008
6	0.00513	0.2048	0.0154	0.08747	4.688	41.6	1.6	67.6	1.3	4.42	0.10	0.121	0.013
7	0.00605	0.2945	0.0163	0.1047	6.782	54.5	1.3	73.6	1.5	5.31	0.09	0.106	0.011
8	0.00656	0.6148	0.0276	0.1952	10.804	51.90	0.72	82.0	2.8	5.94	0.08	0.097	0.010
9	0.00142	0.2586	0.0104	0.07691	3.299	42.91	0.84	87.3	1.1	6.34	0.12	0.093	0.009
10	0.00634	0.3911	0.0148	0.1166	7.358	53.75	0.74	74.5	1.7	6.33	0.12	0.087	0.009
11	0.02114	5.2874	0.1938	1.466	62.635	44.05	0.27	90.0	21.1	6.80	0.04	0.091	0.009
12	0.01117	5.6152	0.1800	1.509	56.419	40.35	0.25	94.1	21.7	7.02	0.15	0.082	0.008
13	0.00004	0.0499	0.0018	0.01615	0.5437	37.7	2.9	97.6	0.2	5.83	0.22	0.074	0.011
14	0.00674	4.5821	0.1437	1.214	40.709	36.60	0.12	95.1	17.5	7.12	0.03	0.081	0.008
15	0.00711	5.3561	0.1747	1.433	48.088	36.84	0.12	95.6	20.6	7.05	0.02	0.084	0.008
16	0.00021	0.2292	0.0058	0.05721	1.857	36.01	0.88	96.6	0.8	7.56	0.13	0.069	0.007
17	0.00047	0.3467	0.0069	0.1107	3.701	36.9	1.4	96.2	1.6	5.91	0.33	0.042	0.005
18	0.00654	6.3973	0.0402	0.3367	13.963	40.96	0.37	86.1	4.9	35.85	0.24	0.082	0.008
Total gas						*42.63*	*0.31*			*8.17*		*0.086*	

TABLE DR1B. ^{40}Ar-^{39}Ar DATA FROM LASER STEP-HEATING EXPERIMENTS. ARGON DATA x 10^{-15} MOLES.

	$^{36}Ar_{(atm)}$	$^{37}Ar_{(Ca)}$	$^{38}Ar_{(Cl)}$	$^{39}Ar_{(K)}$	$^{40}Ar_{(Total)}$	Age (Ma)	±2σ	^{40}Ar*%	$^{39}Ar_{(K)}$%	Ca/K	±2σ	Cl/K	±2σ
Gabbro, biotite (sample 60A, 0.250-0.500 mm, 6 flakes, J = 0.0006427±0.0000039)													
1	0.02258	0.00503	0.00121	0.03092	7.822	43.0	6.6	14.7	0.7	0.307	0.048	0.0267	0.0032
2	0.00464	0.00124	0.00089	0.04061	2.580	34.6	3.2	46.9	0.9	0.058	0.047	0.0150	0.0021
3	0.00955	0.00309	0.00658	0.3206	12.442	34.83	0.39	77.3	6.9	0.018	0.005	0.0141	0.0015
4	0.00209	0.00141	0.00815	0.4772	14.761	34.40	0.27	95.8	10.2	0.006	0.004	0.0117	0.0013
5	0.00175	0.00132	0.00721	0.4246	13.003	34.13	0.24	96.0	9.1	0.006	0.004	0.0116	0.0012
6	0.00084	0.00112	0.00479	0.2964	9.023	34.36	0.33	97.2	6.4	0.007	0.004	0.0111	0.0011
7	0.00115	0.00222	0.00662	0.3846	11.725	34.36	0.44	97.1	8.3	0.011	0.002	0.0118	0.0015
8	0.00037	0.00072	0.00205	0.1302	3.963	34.35	0.62	97.2	2.8	0.010	0.011	0.0108	0.0014
9	0.00057	0.00151	0.00334	0.1512	4.666	34.53	0.72	96.4	3.2	0.019	0.021	0.0151	0.0017
10	0.00089	0.00144	0.00271	0.1428	4.538	34.75	0.86	94.2	3.1	0.019	0.023	0.0130	0.0014
11	0.00101	0.00093	0.00372	0.1926	5.971	34.18	0.34	95.0	4.1	0.009	0.006	0.0132	0.0014
12	0.00101	0.00135	0.00371	0.2080	6.420	34.16	0.27	95.3	4.5	0.012	0.006	0.0122	0.0014
13	0.00688	0.00416	0.02438	1.2869	39.779	34.04	0.16	94.9	27.6	0.006	0.001	0.0130	0.0013
14	0.00067	0.00026	0.00315	0.1646	5.024	34.05	0.16	96.1	3.5	0.003	0.004	0.0131	0.0015
15	0.00019	0.00005	0.00052	0.03250	1.000	33.7	1.6	94.3	0.7	0.003	0.022	0.0109	0.0014
16	0.00017	-	0.00012	0.01328	0.4323	33.3	4.4	88.1	0.3	-	-	0.0061	0.0014
17	0.00002	0.00044	0.00020	0.01763	0.5290	34.4	4.0	98.8	0.4	0.047	0.044	0.0077	0.0023
18	0.00078	-	0.00546	0.3235	9.756	34.17	0.25	97.6	6.9	-	-	0.0116	0.0012
19	0.00028	-	0.00040	0.02297	0.7369	33.1	3.5	88.7	0.5	-	-	0.0118	0.0020
Total gas						*34.31*	*0.23*			*0.0106*		*0.0125*	

TABLE DR1C. ^{40}Ar-^{39}Ar DATA FROM LASER STEP-HEATING EXPERIMENTS. ARGON DATA x 10^{-15} MOLES.

	$^{36}Ar_{(atm)}$	$^{37}Ar_{(Ca)}$	$^{38}Ar_{(Cl)}$	$^{39}Ar_{(K)}$	$^{40}Ar_{(Total)}$	Age (Ma)	±2σ	^{40}Ar*%	$^{39}Ar_{(K)}$%	Ca/K	±2σ	Cl/K	±2σ
Benmoreite dike, amphibole (sample 60C, 0.100-0.150 mm, 4.1 mg, J = 0.0006360±0.0000038)													
1	0.1693	0.3703	0.02567	0.6551	66.121	27.99	0.51	24.3	6.7	1.07	0.01	0.0268	0.0026
2	0.00612	0.06394	0.00384	0.1122	5.076	33.1	1.0	64.4	1.1	1.08	0.04	0.0234	0.0032
3	0.00449	0.05154	0.00306	0.1023	4.421	34.38	0.95	70.0	1.0	0.95	0.04	0.0205	0.0023
4	0.01216	0.2242	0.00935	0.2667	12.147	36.43	0.59	70.4	2.7	1.59	0.03	0.0240	0.0030
5	0.01187	0.7016	0.01445	0.3776	15.308	35.5	0.45	77.1	3.8	3.51	0.08	0.0262	0.0026
6	0.00456	0.3656	0.00740	0.2031	7.565	34.8	1.2	82.2	2.1	3.40	0.07	0.0250	0.0025

40Ar/39Ar(K) = 0.0096; 36Ar/37Ar(Ca) = 0.00024; 39Ar/37Ar(Ca) = 0.00075.

TABLE DR1D. ^{40}Ar-^{39}Ar DATA FROM LASER STEP-HEATING EXPERIMENTS. ARGON DATA x 10^{-15} MOLES.

	$^{36}Ar_{(atm)}$	$^{37}Ar_{(Ca)}$	$^{38}Ar_{(Cl)}$	$^{39}Ar_{(K)}$	$^{40}Ar_{(Total)}$	Age (Ma)	±2σ	^{40}Ar*%	$^{39}Ar_{(K)}$%	Ca/K	±2σ	Cl/K	±2σ
Benmoreite dike, whole-rock (sample 60C, 0.250-0.300 mm, 7.3 mg, J = 0.0006267±0.0000038)													
1	0.07597	0.00452	0.00428	0.00955	25.245	304	29	11.1	0.03	0.9	1.3	0.307	0.035
2	0.12759	0.02647	0.01095	0.07678	52.882	211	15	28.7	0.24	0.65	0.19	0.098	0.010
3	0.07999	0.02166	0.00778	0.07448	30.451	100.6	8.9	22.4	0.23	0.55	0.18	0.072	0.007
4	0.15117	0.07843	0.01653	0.2690	60.296	64.5	1.9	25.9	0.83	0.55	0.06	0.0421	0.0042
5	0.02072	0.02967	0.00326	0.1144	10.927	46.9	1.7	44.0	0.35	0.49	0.13	0.0196	0.0020
6	0.08813	0.1699	0.00981	0.4121	41.354	41.54	0.50	37.0	1.27	0.78	0.03	0.0163	0.0016
7	0.02890	0.1596	0.00306	0.3189	18.272	34.17	0.69	53.2	0.99	0.94	0.04	0.0066	0.0006
8	0.07386	0.3519	0.00581	0.5224	38.873	36.53	0.48	43.8	1.62	1.27	0.01	0.0076	0.0007
9	0.04067	0.3506	0.00417	0.4860	28.470	37.87	0.54	57.8	1.50	1.36	0.04	0.0059	0.0006
10	0.03659	0.3615	0.00476	0.5141	28.368	38.20	1.39	61.9	1.59	1.33	0.03	0.0063	0.0007
11	0.08985	0.5643	0.01208	1.008	61.183	38.42	0.56	56.6	3.12	1.06	0.01	0.0082	0.0008
12	0.04287	0.4277	0.00796	1.204	50.301	34.99	0.23	74.8	3.72	0.67	0.02	0.0045	0.0005
13	0.01314	0.19861	0.00535	0.7112	25.381	33.86	0.21	84.7	2.20	0.53	0.01	0.0052	0.0005
14	0.00277	0.04454	0.00115	0.2067	7.115	34.12	0.96	88.5	0.64	0.41	0.06	0.0038	0.0005
15	0.10871	2.385	0.05584	3.463	140.72	35.12	0.47	77.2	10.71	1.30	0.05	0.0110	0.0011
16	0.02156	1.073	0.02316	1.812	61.245	33.92	0.17	89.6	5.60	1.12	0.03	0.0088	0.0009
17	0.00762	0.3725	0.00956	0.6679	22.346	33.70	0.34	89.9	2.07	1.05	0.03	0.0098	0.0010
18	0.00995	0.6370	0.01166	0.7961	26.641	33.35	0.22	88.9	2.46	1.51	0.03	0.0100	0.0010
19	0.02712	1.649	0.02952	2.020	69.252	33.95	0.13	88.4	6.25	1.54	0.01	0.0100	0.0010
20	0.01712	0.5885	0.01313	1.128	39.164	33.87	0.25	87.1	3.49	0.98	0.03	0.0080	0.0008
21	0.02613	0.8413	0.01654	1.438	51.228	33.89	0.15	84.9	4.45	1.10	0.01	0.0079	0.0008
22	0.04120	1.232	0.01960	1.949	71.409	34.04	0.20	82.9	6.03	1.19	0.02	0.0069	0.0007
23	0.05053	1.893	0.02380	1.928	74.011	34.32	0.29	79.8	5.96	1.85	0.02	0.0085	0.0008
24	0.05594	1.439	0.01274	1.450	61.668	34.87	0.21	73.2	4.48	1.87	0.02	0.0060	0.0006
25	0.05647	1.079	0.00961	1.142	53.508	36.11	0.25	68.8	3.53	1.78	0.03	0.0058	0.0006
26	0.11819	2.441	0.01698	2.150	105.83	36.90	0.34	67.0	6.65	2.14	0.04	0.0054	0.0005
27	0.05161	0.3373	0.00456	0.7980	42.269	37.88	0.25	63.9	2.47	0.80	0.02	0.0039	0.0004
28	0.06669	0.3903	0.00967	1.085	57.140	38.58	0.29	65.5	3.36	0.68	0.02	0.0061	0.0006
29	0.27463	1.923	0.04424	4.585	242.43	39.33	0.64	66.5	14.18	0.79	0.03	0.0066	0.0006
Total gas						*36.83*	*0.25*			*1.229*		*0.0084*	

TABLE DR1E. ^{40}Ar-^{39}Ar DATA FROM LASER STEP-HEATING EXPERIMENTS. ARGON DATA x 10^{-15} MOLES.

	$^{36}Ar_{(atm)}$	$^{37}Ar_{(Ca)}$	$^{38}Ar_{(Cl)}$	$^{39}Ar_{(K)}$	$^{40}Ar_{(Total)}$	Age (Ma)	±2σ	^{40}Ar*%	$^{39}Ar_{(K)}$%	Ca/K	±2σ	Cl/K	±2σ
Trachyte dike, amphibole (sample 60D, 0.075-0.150 mm, 4.3 mg, J = 0.0006224±0.0000037)													
1	0.04807	0.08675	0.00506	0.1422	19.172	38.81	0.81	25.9	6.7	1.151	0.011	0.0244	0.0024
2	0.01442	0.03667	0.00374	0.2349	11.714	35.27	0.18	63.6	11.1	0.295	0.008	0.0109	0.0013
3	0.00301	0.02545	0.00366	0.1290	5.035	35.74	0.39	82.3	6.1	0.372	0.012	0.0194	0.0021
4	0.00900	0.6762	0.03883	0.3765	14.901	36.14	0.15	82.1	17.8	3.388	0.020	0.0706	0.0068
5	0.00411	0.6625	0.03408	0.2773	9.938	34.99	0.26	87.8	13.1	4.508	0.027	0.0842	0.0082
6	0.00418	0.9004	0.04101	0.3291	11.562	34.9	0.16	89.3	15.5	5.162	0.021	0.0854	0.0088
7	0.00089	0.04681	0.00145	0.02179	0.9882	37.0	1.7	73.3	1.0	4.05	0.09	0.0455	0.0059
8	0.00005	0.00898	0.00037	0.00559	0.2056	37.9	6.4	92.7	0.3	3.03	0.22	0.0456	0.0126
9	0.00972	0.1663	0.00220	0.02461	3.858	44.4	2.3	25.5	1.2	12.75	0.15	0.0612	0.0065
10	0.00130	0.6476	0.00492	0.04539	2.014	39.86	0.82	80.9	2.1	26.92	0.20	0.0742	0.0076
11	0.00067	0.3800	0.00132	0.02239	0.9557	37.6	1.7	79.3	1.1	32.02	0.11	0.0403	0.0040
12	0.00172	1.3976	0.00268	0.03619	1.814	40.1	0.62	72.0	1.7	72.87	0.87	0.0506	0.0056
13	0.00131	1.3995	0.00343	0.04175	1.849	38.92	0.67	79.1	2.0	63.25	0.59	0.0562	0.0061
14	0.00153	1.2550	0.00287	0.03627	1.791	40.96	0.67	74.7	1.7	65.3	1.0	0.0542	0.0060
15	0.00281	3.2059	0.00710	0.07658	3.737	42.14	0.54	77.8	3.6	78.99	0.38	0.0635	0.0065
16	0.00703	8.5038	0.01329	0.1550	8.152	43.48	0.32	74.5	7.3	103.52	0.42	0.0588	0.0061
17	0.00874	18.440	0.01429	0.1619	9.000	43.97	0.34	71.3	7.6	214.94	0.51	0.0605	0.0064
Total gas						*37.62*	*0.15*			*33.735*		*0.0583*	

Errors are 2σ. Errors on total gas ages also include the uncertainty in the J value. The most relevant correction factors used were as follows:
40Ar/39Ar(K) = 0.0096; 36Ar/37Ar(Ca) = 0.00024; 39Ar/37Ar(Ca) = 0.00075.