

Geological Magazine - Appendix

**Jurassic to Early Cretaceous postaccretional sinistral transpression in north-central Chile (latitudes 31–32° S)**

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<sup>40</sup>Ar/<sup>39</sup>Ar data table

**CH02-77 350-500 micron Feldspar#1**

Weighted average of J from standards = 0.002262 +/- 0.000024

Laser (mW)	Cum. <sup>39</sup> Ar	<sup>40</sup> Ar/ <sup>39</sup> Ar meas.	+/-	<sup>37</sup> Ar/ <sup>39</sup> Ar meas.	+/-	<sup>36</sup> Ar/ <sup>39</sup> Ar meas.	+/-	% Atm. <sup>40</sup> Ar	Ca/K	+/-	Cl/K	+/-	<sup>40</sup> Ar*/ <sup>39</sup> Ar <sub>K</sub>	+/-	Age (Ma)	+/- (Ma)
500	0.028	119.832	2.555	7.938	0.174	0.2981	0.0131	73.0	14.640	0.322	0.07371	0.00344	32.47	3.49	127.9	13.3
1000	0.119	55.286	0.274	10.282	0.053	0.0889	0.0018	46.2	18.993	0.099	0.01793	0.00060	29.95	0.55	118.3	2.1
1500	0.273	32.862	0.103	8.154	0.028	0.0113	0.0029	8.3	15.041	0.052	0.00340	0.00068	30.27	0.87	119.5	3.3
2000	0.390	32.596	0.123	9.592	0.037	0.0113	0.0014	8.1	17.712	0.069	0.00476	0.00063	30.13	0.43	119.0	1.6
2500	0.488	35.704	0.116	11.857	0.038	0.0155	0.0014	10.3	21.926	0.071	0.01037	0.00056	32.25	0.42	127.0	1.6
3000	0.583	37.217	0.120	12.320	0.042	0.0168	0.0016	10.9	22.789	0.078	0.01155	0.00110	33.42	0.47	131.5	1.8
4000	0.759	40.466	0.632	12.563	0.045	0.0268	0.0011	17.2	23.242	0.084	0.01362	0.00052	33.75	0.71	132.7	2.7
5000	0.905	37.538	0.166	14.181	0.062	0.0189	0.0009	12.1	26.263	0.116	0.01156	0.00084	33.29	0.31	131.0	1.2
8700	1.000	36.174	0.192	15.236	0.082	0.0134	0.0014	7.8	28.237	0.153	0.00890	0.00089	33.67	0.46	132.4	1.8
Integrated		40.322	0.125	11.601	0.018	0.0313	0.0007	20.8	21.448	0.033	0.01181	0.00027	32.16	0.24	126.7	1.6

**CH02-77 350-500 micron Feldspar#2**

Weighted average of J from standards = 0.002262 +/- 0.000024

Laser (mW)	Cum. <sup>39</sup> Ar	<sup>40</sup> Ar/ <sup>39</sup> Ar meas.	+/-	<sup>37</sup> Ar/ <sup>39</sup> Ar meas.	+/-	<sup>36</sup> Ar/ <sup>39</sup> Ar meas.	+/-	% Atm. <sup>40</sup> Ar	Ca/K	+/-	Cl/K	+/-	<sup>40</sup> Ar*/ <sup>39</sup> Ar <sub>K</sub>	+/-	Age (Ma)	+/- (Ma)
500	0.028	121.540	2.171	6.823	0.139	0.3152	0.0124	76.2	12.575	0.257	0.07943	0.00523	29.02	3.34	114.7	12.8
1000	0.130	52.799	0.204	8.495	0.034	0.0820	0.0027	44.7	15.675	0.063	0.01410	0.00106	29.34	0.79	115.9	3.0
1500	0.283	34.254	0.101	8.910	0.030	0.0153	0.0017	11.3	16.443	0.055	0.00361	0.00069	30.55	0.51	120.6	2.0
2000	0.425	33.696	0.116	8.626	0.034	0.0113	0.0018	8.0	15.918	0.062	0.00271	0.00074	31.16	0.54	122.9	2.1
2500	0.523	35.496	0.147	9.800	0.041	0.0172	0.0026	12.2	18.097	0.077	0.00423	0.00108	31.33	0.79	123.5	3.0
3000	0.693	39.256	0.188	12.441	0.060	0.0259	0.0022	17.1	23.014	0.112	0.00975	0.00059	32.78	0.68	129.1	2.6
3500	0.779	39.011	0.356	13.271	0.123	0.0276	0.0042	18.4	24.562	0.230	0.01225	0.00115	32.11	1.28	126.5	4.9
4000	0.840	40.608	0.528	12.167	0.159	0.0314	0.0060	20.6	22.503	0.297	0.01418	0.00154	32.49	1.84	127.9	7.0
4500	0.868	36.423	1.004	13.538	0.378	0.0259	0.0137	18.2	25.062	0.705	0.01227	0.00341	30.03	4.18	118.6	16.0
5000	0.897	36.224	0.927	13.554	0.350	0.0217	0.0122	14.9	25.091	0.653	0.01104	0.00310	31.08	3.72	122.6	14.2
8700	1.000	42.858	0.329	13.821	0.108	0.0373	0.0036	23.3	25.589	0.202	0.01648	0.00094	33.13	1.11	130.4	4.2
Integrated		41.270	0.089	10.804	0.024	0.0366	0.0011	24.3	19.964	0.045	0.01094	0.00035	31.45	0.33	124.0	1.8

**CH02-77 >500 micron Feldspar#1**

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Laser (mW)	Cum. <sup>39</sup> Ar	<sup>40</sup> Ar/ <sup>39</sup> Ar meas.	+/-	<sup>37</sup> Ar/ <sup>39</sup> Ar meas.	+/-	<sup>36</sup> Ar/ <sup>39</sup> Ar meas.	+/-	% Atm. <sup>40</sup> Ar	Ca/K	+/-	Cl/K	+/-	<sup>40</sup> Ar*/ <sup>39</sup> Ar <sub>K</sub>	+/-	Age (Ma)	+/- (Ma)
500	0.021	195.504	3.999	8.506	0.205	0.5898	0.0313	88.8	15.695	0.381	0.08361	0.00800	21.97	8.58	87.5	33.4
1000	0.154	42.494	0.127	5.158	0.018	0.0388	0.0019	26.1	9.496	0.034	0.00696	0.00066	31.50	0.57	124.2	2.2

1500	0.242	36.235	0.281	8.474	0.067	0.0162	0.0044	11.5	15.635	0.124	0.00349	0.00104	32.23	1.34	126.9	5.1
2000	0.308	35.550	0.228	9.602	0.063	0.0059	0.0046	2.9	17.730	0.117	0.00572	0.00152	34.72	1.39	136.4	5.3
2500	0.369	34.946	0.289	7.605	0.067	0.0123	0.0048	8.8	14.023	0.124	0.00678	0.00094	32.01	1.46	126.1	5.6
3000	0.418	36.069	0.549	7.884	0.124	0.0111	0.0075	7.4	14.542	0.230	0.00304	0.00225	33.54	2.29	131.9	8.7
3500	0.481	42.214	0.515	11.158	0.136	0.0323	0.0062	20.7	20.623	0.253	0.00827	0.00167	33.71	1.88	132.6	7.1
4000	0.645	43.306	0.652	13.487	0.205	0.0309	0.0043	18.7	24.967	0.383	0.00783	0.00516	35.48	1.38	139.3	5.2
4500	0.742	39.026	0.315	15.080	0.129	0.0190	0.0037	11.5	27.945	0.241	0.00716	0.00122	34.86	1.13	136.9	4.3
5000	0.901	65.279	0.438	14.552	0.097	0.1113	0.0036	48.7	26.957	0.182	0.00773	0.00130	33.77	1.07	132.8	4.1
8700	1.000	45.821	0.368	14.770	0.121	0.0586	0.0112	35.4	27.363	0.226	0.00354	0.00269	29.89	3.33	118.0	12.7
Integrated		47.655	0.157	11.256	0.038	0.0531	0.0018	31.2	20.806	0.071	0.00800	0.00096	33.03	0.54	130.0	2.5

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500	0.007	38.104	0.180	2.615	0.013	0.0427	0.0010	32.6	4.806	0.024	0.01508	0.00031	25.70	0.34	102.0	1.3
1000	0.030	39.527	0.395	2.654	0.014	0.0086	0.0004	5.9	4.879	0.025	0.00216	0.00010	37.23	0.41	145.9	1.5
1500	0.096	41.268	0.240	0.862	0.004	0.0025	0.0003	1.6	1.582	0.008	0.00094	0.00011	40.60	0.25	158.5	1.0
2000	0.175	41.200	0.247	0.755	0.003	0.0025	0.0002	1.7	1.386	0.005	0.00074	0.00004	40.50	0.25	158.1	0.9
2500	0.280	41.473	0.208	0.379	0.001	0.0015	0.0002	1.0	0.696	0.002	0.00062	0.00003	41.04	0.22	160.2	0.8
3000	0.415	41.507	0.176	0.214	0.001	0.0011	0.0002	0.7	0.392	0.001	0.00057	0.00003	41.18	0.18	160.7	0.7
4000	0.626	41.633	0.141	0.090	0.000	0.0010	0.0001	0.7	0.164	0.001	0.00070	0.00003	41.32	0.14	161.2	0.5
5000	0.948	41.656	0.128	0.070	0.000	0.0008	0.0001	0.6	0.128	0.000	0.00076	0.00001	41.39	0.13	161.5	0.5
8700	1.000	42.503	0.248	0.155	0.001	0.0023	0.0003	1.6	0.284	0.001	0.00145	0.00009	41.81	0.27	163.0	1.0
Integrated		41.521	0.067	0.313	0.000	0.0018	0.0001	1.2	0.575	0.001	0.00089	0.00001	41.01	0.07	160.0	1.7

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500	0.008	49.122	0.130	3.060	0.012	0.0636	0.0017	37.8	5.626	0.022	0.01061	0.00034	30.59	0.51	120.7	2.0
1000	0.045	44.075	0.218	1.521	0.003	0.0131	0.0004	8.5	2.793	0.005	0.00132	0.00009	40.33	0.25	157.5	0.9
1500	0.141	42.750	0.237	0.249	0.001	0.0029	0.0002	2.0	0.458	0.002	0.00062	0.00004	41.89	0.25	163.3	0.9
2000	0.259	42.035	0.131	0.146	0.001	0.0014	0.0002	0.9	0.267	0.001	0.00056	0.00005	41.62	0.14	162.3	0.5
2500	0.396	41.386	0.118	0.119	0.001	0.0013	0.0001	0.9	0.217	0.001	0.00056	0.00004	41.00	0.12	160.0	0.5
3000	0.558	41.177	0.095	0.061	0.001	0.0007	0.0002	0.5	0.112	0.001	0.00047	0.00003	40.95	0.11	159.8	0.4
3500	0.675	41.567	0.156	0.039	0.001	0.0008	0.0002	0.5	0.072	0.001	0.00053	0.00004	41.31	0.17	161.2	0.6
4000	0.775	41.483	0.193	0.038	0.002	0.0003	0.0004	0.2	0.069	0.004	0.00045	0.00005	41.38	0.23	161.4	0.9
4500	0.919	39.934	0.120	0.023	0.001	0.0008	0.0003	0.6	0.042	0.002	0.00045	0.00007	39.67	0.15	155.1	0.6
5000	0.979	34.257	0.211	0.024	0.004	0.0035	0.0012	3.0	0.044	0.008	0.00019	0.00036	33.20	0.42	130.6	1.6
8700	1.000	33.116	0.268	0.072	0.010	0.0098	0.0030	8.7	0.132	0.019	0.00091	0.00153	30.20	0.92	119.2	3.5
Integrated		40.939	0.050	0.163	0.001	0.0024	0.0001	1.7	0.299	0.001	0.00062	0.00004	40.22	0.06	157.1	1.6

Irradiations done at McMaster Nuuclear Reactor: ( $^{39}\text{Ar}/^{37}\text{Ar}$ )<sub>Ca</sub> = 0.000706, ( $^{36}\text{Ar}/^{37}\text{Ar}$ )<sub>Ca</sub> = 0.000279, ( $^{40}\text{Ar}/^{39}\text{Ar}$ )<sub>K</sub> = 0.0297

Standard: MMhb-1 with an age of 513.9 Ma

All errors quoted at 1-sigma

Laser (mW): Laser power for each step of the step-heating experiment

$^{40}\text{Ar}/^{39}\text{Ar}$ ,  $^{37}\text{Ar}/^{39}\text{Ar}$ ,  $^{40}\text{Ar}/^{39}\text{Ar}$ : Isotopic ratios corrected for system blank and decay of  $^{37}\text{Ar}$  and  $^{39}\text{Ar}$

Ca/K: Calcium to potassium ratio as determined from  $^{37}\text{Ar}$  produced from  $^{40}\text{Ca}$  and  $^{39}\text{Ar}$  produced from  $^{39}\text{K}$

Cl/K: chlorine to potassium ratio as determined from  $^{38}\text{Ar}$  produced from  $^{37}\text{Cl}$  and  $^{39}\text{Ar}$  produced from  $^{39}\text{K}$

$^{40}\text{Ar}^*/^{39}\text{Ar}_K$ : ratio of radiogenic argon 40 to reactor-produced  $^{39}\text{Ar}$  from potassium, corrected for reactor interferences