Table DR1 Results of $^{40}Ar/^{39}Ar$ dating for samples from Mary Valley, southeast Queensland, Australia

Y. X. Feng 2001071

Run ID#	Sample	Laser (Watt)	$^{40}Ar/^{39}Ar$	$^{38}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$	$^{40}Ar^*/^{39}Ar$	$^{40}Ar^*$%	Age (Ma)	±2 Sigma (Ma)	J Factor*	±2 Sigma	^{40}Ar Moles
0782-01A	KA-8-1B	0.6	1.986	1.36E-02	9.64E-03	7.13E-03	-0.1220	-6.1	-0.738	0.268	0.003351	3.2E-06	3.80E-15
0782-01B	KA-8-1B	0.9	0.486	1.33E-02	1.05E-02	1.44E-03	0.0607	12.5	0.367	0.062	0.003351	3.2E-06	1.83E-15
0782-01C	KA-8-1B	1.0	0.314	1.32E-02	9.53E-03	8.47E-04	0.0639	20.4	0.386	0.033	0.003351	3.2E-06	2.21E-15
0782-01D	KA-8-1B	1.1	0.222	1.24E-02	6.21E-03	5.86E-04	0.0485	21.9	0.293	0.014	0.003351	3.2E-06	4.45E-15
0782-01E	KA-8-1B	1.2	0.216	1.24E-02	6.73E-03	5.75E-04	0.0455	21.2	0.275	0.035	0.003351	3.2E-06	3.22E-15
0782-01F	KA-8-1B	1.3	0.243	1.14E-02	4.47E-03	8.02E-04	0.0056	2.3	0.034	0.103	0.003351	3.2E-06	5.39E-16
0782-01G	KA-8-1B	1.4	0.645	1.15E-02	1.72E-02	2.06E-03	0.0381	5.9	0.230	0.314	0.003351	3.2E-06	1.62E-16
0782-01H	KA-8-1B	1.8	0.542	1.17E-02	1.76E-02	1.13E-03	0.2097	38.7	1.267	0.278	0.003351	3.2E-06	1.38E-16
0782-01I	KA-8-1B	2.5	0.401	1.17E-02	6.41E-03	1.81E-03	-0.1325	-33.1	-0.801	0.386	0.003351	3.2E-06	-2.06E-17
0782-02A	KA-8-1B	0.7	1.904	1.35E-02	8.55E-03	6.08E-03	0.1076	5.7	0.650	0.288	0.003351	3.2E-06	2.98E-15
0782-02B	KA-8-1B	1.0	0.699	1.23E-02	7.21E-03	1.77E-03	0.1771	25.4	1.071	0.227	0.003351	3.2E-06	1.35E-15
0782-02C	KA-8-1B	1.1	0.436	1.22E-02	1.27E-02	1.20E-03	0.0821	18.9	0.496	0.108	0.003351	3.2E-06	9.72E-16
0782-02D	KA-8-1B	1.2	0.220	1.27E-02	1.04E-02	2.45E-04	0.1480	67.5	0.895	0.134	0.003351	3.2E-06	7.36E-16
0782-02E	KA-8-1B	1.3	0.223	1.22E-02	1.03E-02	4.37E-04	0.0944	42.4	0.570	0.062	0.003351	3.2E-06	1.08E-15
0782-02F	KA-8-1B	1.5	0.224	1.25E-02	7.40E-03	5.39E-04	0.0647	29	0.391	0.032	0.003351	3.2E-06	2.15E-15
0782-02G	KA-8-1B	4.0	0.436	1.30E-02	8.90E-03	1.27E-03	0.0611	14	0.369	0.015	0.003351	3.2E-06	1.86E-14
0782-03A	KA-8-1B	0.8	1.273	1.30E-02	2.16E-02	4.23E-03	0.0227	1.8	0.137	0.142	0.003351	3.2E-06	1.91E-15
0782-03B	KA-8-1B	1.2	0.357	1.32E-02	1.21E-02	1.04E-03	0.0486	13.7	0.294	0.041	0.003351	3.2E-06	1.46E-15
0782-03C	KA-8-1B	1.4	0.235	1.29E-02	5.00E-03	6.32E-04	0.0483	20.6	0.292	0.023	0.003351	3.2E-06	2.13E-15
0782-03D	KA-8-1B	1.6	0.226	1.26E-02	4.73E-03	5.80E-04	0.0544	24.1	0.329	0.014	0.003351	3.2E-06	4.01E-15
0782-03E	KA-8-1B	1.9	0.287	1.24E-02	9.35E-03	8.16E-04	0.0455	15.9	0.275	0.050	0.003351	3.2E-06	9.68E-16
0782-03F	KA-8-1B	2.3	0.682	1.27E-02	1.27E-02	2.31E-03	-0.0001	0	-0.001	0.254	0.003351	3.2E-06	6.68E-16
0782-03G	KA-8-1B	3.5	0.651	9.99E-03	9.08E-02	2.05E-03	0.0527	8.1	0.318	0.315	0.003351	3.2E-06	2.67E-16
0782-03H	KA-8-1B	6.5	3.582	1.14E-02	0.00E+00	1.14E-02	0.2151	6	1.300	2.215	0.003351	3.2E-06	3.59E-16
0782-04A	KA-8-1B	0.8	1.207	1.36E-02	1.68E-02	3.70E-03	0.1131	9.4	0.684	0.099	0.003351	3.2E-06	3.50E-15
0782-04B	KA-8-1B	1.2	0.343	1.35E-02	6.67E-03	9.88E-04	0.0515	15	0.311	0.028	0.003351	3.2E-06	4.05E-15
0782-04C	KA-8-1B	1.4	0.253	1.27E-02	1.48E-03	6.75E-04	0.0532	21.1	0.322	0.014	0.003351	3.2E-06	7.25E-15
0782-04D	KA-8-1B	1.6	0.343	1.20E-02	1.14E-02	8.41E-04	0.0946	27.7	0.572	0.053	0.003351	3.2E-06	1.72E-15
0782-04E	KA-8-1B	1.9	0.834	1.31E-02	3.39E-02	2.24E-03	0.1735	20.8	1.048	0.248	0.003351	3.2E-06	7.67E-16
0782-04F	KA-8-1B	2.3	0.957	1.21E-02	6.89E-02	2.65E-03	0.1772	18.5	1.071	1.099	0.003351	3.2E-06	2.22E-16
0782-04G	KA-8-1B	3.5	1.471	9.69E-03	3.41E-01	-9.77E-04	1.7860	121.4	10.765	3.257	0.003351	3.2E-06	1.28E-16
0782-04H	KA-8-1B	6.4	4.584	1.26E-02	1.56E-01	1.83E-02	-0.7994	-17.4	-4.839	4.041	0.003351	3.2E-06	3.25E-16

Table DR1 Results of $^{40}Ar/^{39}Ar$ dating for samples from Mary Valley, southeast Queensland, Australia

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Run ID#	Sample	Laser (Watt)	$^{40}Ar/^{39}Ar$	$^{38}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$	$^{40}Ar^*/^{39}Ar$	$^{40}Ar^*$%	Age (Ma)	±2 Sigma (Ma)	J Factor	±2 Sigma	^{40}Ar Moles
0782-05A	KA-8-1B	0.8	0.507	1.36E-02	8.62E-03	1.53E-03	0.0545	10.8	0.329	0.030	0.003351	3.2E-06	5.47E-15
0782-05B	KA-8-1B	1.2	0.324	1.28E-02	3.03E-03	9.13E-04	0.0542	16.8	0.328	0.038	0.003351	3.2E-06	4.11E-15
0782-05C	KA-8-1B	1.4	1.138	1.45E-02	0.00E+00	3.75E-03	0.0310	2.7	0.187	0.485	0.003351	3.2E-06	4.95E-16
0782-05D	KA-8-1B	1.6	1.687	1.27E-02	1.87E-01	5.30E-03	0.1332	7.9	0.805	1.120	0.003351	3.2E-06	2.98E-16
0782-05E	KA-8-1B	1.9	1.760	1.28E-02	0.00E+00	6.41E-03	-0.1357	-7.7	-0.821	1.944	0.003351	3.2E-06	2.07E-16
0782-05F	KA-8-1B	2.3	2.420	1.28E-02	4.44E-01	6.21E-03	0.6197	25.6	3.743	2.794	0.003351	3.2E-06	1.62E-16
0782-05G	KA-8-1B	6.5	11.067	2.06E-02	4.91E-01	3.06E-02	2.0591	18.6	12.405	3.448	0.003351	3.2E-06	7.00E-16
0782-06A	KA-8-1B	0.7	0.818	1.36E-02	2.74E-02	2.47E-03	0.0888	10.9	0.537	0.047	0.003351	3.2E-06	3.98E-15
0782-06B	KA-8-1B	0.7	0.578	1.29E-02	1.14E-02	1.77E-03	0.0560	9.7	0.339	0.029	0.003351	3.2E-06	5.41E-15
0782-06C	KA-8-1B	0.8	0.344	1.23E-02	6.21E-03	9.97E-04	0.0492	14.4	0.298	0.062	0.003351	3.2E-06	8.08E-16
0782-06D	KA-8-1B	0.8	0.563	1.26E-02	0.00E+00	1.77E-03	0.0381	6.8	0.231	0.485	0.003351	3.2E-06	2.34E-16
0782-06E	KA-8-1B	1.0	1.072	1.56E-02	4.46E-02	3.35E-03	0.0870	8.1	0.526	0.727	0.003351	3.2E-06	2.76E-16
0782-06F	KA-8-1B	1.8	1.166	1.34E-02	0.00E+00	4.63E-03	-0.2020	-17.3	-1.222	0.503	0.003351	3.2E-06	5.12E-16
0782-06G	KA-8-1B	6.4	10.374	2.16E-02	0.00E+00	2.80E-02	2.1011	20.3	12.658	3.433	0.003351	3.2E-06	7.26E-16
0784-01A	KA-8-3	0.6	11.426	1.91E-02	8.85E-03	3.75E-02	0.3328	2.9	2.011	0.847	0.003351	3.2E-06	1.77E-14
0784-01B	KA-8-3	0.9	10.282	1.94E-02	7.16E-03	3.39E-02	0.2723	2.6	1.645	0.418	0.003351	3.2E-06	2.31E-14
0784-01C	KA-8-3	1.0	7.540	1.73E-02	1.00E-02	2.59E-02	-0.1277	-1.7	-0.772	0.652	0.003351	3.2E-06	1.09E-14
0784-01D	KA-8-3	1.1	3.967	1.49E-02	9.65E-03	1.32E-02	0.0643	1.6	0.389	0.512	0.003351	3.2E-06	5.17E-15
0784-01E	KA-8-3	1.2	1.986	1.36E-02	9.29E-03	6.12E-03	0.1766	8.9	1.067	0.238	0.003351	3.2E-06	2.93E-15
0784-01F	KA-8-3	1.3	1.129	1.30E-02	8.04E-03	3.64E-03	0.0530	4.7	0.320	0.265	0.003351	3.2E-06	2.37E-15
0784-01G	KA-8-3	1.4	0.817	1.29E-02	8.40E-03	2.25E-03	0.1537	18.8	0.929	0.180	0.003351	3.2E-06	2.57E-15
0784-01H	KA-8-3	1.8	0.728	1.31E-02	8.34E-03	2.30E-03	0.0469	6.5	0.284	0.072	0.003351	3.2E-06	8.26E-15
0784-01I	KA-8-3	2.5	0.538	1.29E-02	6.39E-03	1.66E-03	0.0483	9	0.292	0.021	0.003351	3.2E-06	2.27E-14
0784-01J	KA-8-3	4.4	0.994	1.39E-02	1.86E-02	3.01E-03	0.1064	10.7	0.643	0.062	0.003351	3.2E-06	2.20E-14
0784-02A	KA-8-3	1.1	2.960	1.48E-02	9.21E-03	9.84E-03	0.0515	1.7	0.311	0.217	0.003351	3.2E-06	1.10E-14
0784-02B	KA-8-3	1.2	0.877	1.26E-02	1.03E-02	2.71E-03	0.0747	8.5	0.451	0.147	0.003351	3.2E-06	3.03E-15
0784-02C	KA-8-3	1.3	0.382	1.27E-02	8.82E-03	1.10E-03	0.0561	14.7	0.339	0.078	0.003351	3.2E-06	2.30E-15
0784-02D	KA-8-3	1.4	0.305	1.28E-02	6.24E-03	8.71E-04	0.0476	15.6	0.288	0.032	0.003351	3.2E-06	2.59E-15
0784-02E	KA-8-3	1.8	0.246	1.30E-02	7.20E-03	6.24E-04	0.0615	25.1	0.372	0.034	0.003351	3.2E-06	3.97E-15
0784-02F	KA-8-3	3.0	0.291	1.30E-02	6.65E-03	7.86E-04	0.0581	20	0.351	0.013	0.003351	3.2E-06	1.01E-14
0784-02G	KA-8-3	4.0	1.006	1.29E-02	1.14E-02	2.40E-03	0.2960	29.5	1.788	0.122	0.003351	3.2E-06	5.29E-15
0784-02H	KA-8-3	4.5	43.427	3.08E-02	1.07E-01	8.73E-02	17.6461	40.6	103.644	7.117	0.003351	3.2E-06	3.26E-15

Table DR1 Results of $^{40}Ar/^{39}Ar$ dating for samples from Mary Valley, southeast Queensland, Australia

Y. X. Feng 2001071

Run ID#	Sample	Laser (Watt)	$^{40}Ar/^{39}Ar$	$^{38}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$	$^{40}Ar^*/^{39}Ar$	$^{40}Ar^*$%	Age (Ma)	±2 Sigma (Ma)	J Factor	±2 Sigma	^{40}Ar Moles
0784-03A	KA-8-3	0.8	8.751	1.88E-02	1.33E-02	2.97E-02	-0.0243	-0.3	-0.147	0.386	0.003351	3.2E-06	2.32E-14
0784-03B	KA-8-3	1.2	1.142	1.38E-02	6.35E-03	3.55E-03	0.0935	8.2	0.565	0.091	0.003351	3.2E-06	9.89E-15
0784-03C	KA-8-3	1.4	0.580	1.31E-02	7.16E-04	1.79E-03	0.0510	8.8	0.308	0.037	0.003351	3.2E-06	1.50E-14
0784-03D	KA-8-3	1.6	1.122	1.36E-02	3.41E-02	3.04E-03	0.2251	20.1	1.360	0.141	0.003351	3.2E-06	1.69E-15
0784-03E	KA-8-3	1.9	1.276	1.49E-02	2.19E-02	3.18E-03	0.3379	26.5	2.042	0.381	0.003351	3.2E-06	1.00E-15
0784-03F	KA-8-3	2.3	1.330	1.46E-02	0.00E+00	1.34E-03	0.9333	70.2	5.634	0.834	0.003351	3.2E-06	3.12E-16
0784-03G	KA-8-3	3.5	3.596	1.58E-02	2.27E-01	-3.16E-03	4.5473	126.4	27.283	3.970	0.003351	3.2E-06	1.73E-16
0784-03H	KA-8-3	6.5	13.545	5.70E-03	0.00E+00	-6.83E-03	15.5633	114.9	91.716	8.915	0.003351	3.2E-06	3.03E-16
0784-04A	KA-8-3	0.8	0.799	1.31E-02	1.48E-02	2.72E-03	-0.0042	-0.5	-0.025	0.103	0.003351	3.2E-06	2.35E-15
0784-04B	KA-8-3	1.2	0.159	1.30E-02	5.70E-03	4.36E-04	0.0295	18.7	0.178	0.020	0.003351	3.2E-06	2.24E-15
0784-04C	KA-8-3	1.4	0.158	1.29E-02	6.28E-04	3.66E-04	0.0490	31.2	0.296	0.015	0.003351	3.2E-06	3.04E-15
0784-04D	KA-8-3	1.6	0.311	1.25E-02	7.61E-03	8.00E-04	0.0749	24.1	0.453	0.088	0.003351	3.2E-06	8.70E-16
0784-04E	KA-8-3	1.9	1.040	1.30E-02	6.70E-02	3.33E-03	0.0599	5.8	0.362	0.543	0.003351	3.2E-06	5.41E-16
0784-04F	KA-8-3	2.3	1.669	1.35E-02	3.07E-01	3.05E-03	0.7914	47.4	4.778	1.195	0.003351	3.2E-06	3.66E-16
0784-04G	KA-8-3	3.5	2.571	1.53E-02	9.81E-02	6.13E-03	0.7657	29.8	4.623	1.898	0.003351	3.2E-06	3.65E-16
0784-04H	KA-8-3	6.4	31.449	2.36E-02	0.00E+00	4.45E-02	18.3080	58.2	107.418	8.899	0.003351	3.2E-06	1.02E-15
0784-05A	KA-8-3	0.8	0.603	1.38E-02	6.62E-03	1.91E-03	0.0385	6.4	0.233	0.051	0.003351	3.2E-06	7.68E-15
0784-05B	KA-8-3	1.1	0.187	1.30E-02	4.52E-03	4.61E-04	0.0502	27	0.304	0.021	0.003351	3.2E-06	3.74E-15
0784-05C	KA-8-3	1.3	0.688	1.25E-02	0.00E+00	2.08E-03	0.0714	10.4	0.431	0.306	0.003351	3.2E-06	4.05E-16
0784-05D	KA-8-3	1.4	0.994	1.15E-02	0.00E+00	2.34E-03	0.3021	30.4	1.825	0.595	0.003351	3.2E-06	1.89E-16
0784-05E	KA-8-3	1.6	1.151	1.32E-02	2.25E-01	2.83E-03	0.3320	28.9	2.006	0.729	0.003351	3.2E-06	1.69E-16
0784-05F	KA-8-3	2.3	1.867	1.08E-02	0.00E+00	2.01E-03	1.2713	68.1	7.669	1.012	0.003351	3.2E-06	2.81E-16
0784-05G	KA-8-3	6.5	24.346	1.86E-02	0.00E+00	3.07E-02	15.2738	62.7	90.052	3.386	0.003351	3.2E-06	1.78E-15
0784-06A	KA-8-3	0.8	2.132	1.47E-02	1.51E-02	6.99E-03	0.0684	3.2	0.413	0.070	0.003351	3.2E-06	1.95E-14
0784-06B	KA-8-3	1.2	0.429	1.33E-02	5.53E-03	1.28E-03	0.0510	11.9	0.309	0.029	0.003351	3.2E-06	1.20E-14
0784-06C	KA-8-3	1.4	1.195	1.45E-02	0.00E+00	3.67E-03	0.1096	9.2	0.663	0.165	0.003351	3.2E-06	1.08E-15
0784-06D	KA-8-3	1.6	1.188	1.48E-02	1.15E-02	3.52E-03	0.1467	12.4	0.887	0.530	0.003351	3.2E-06	4.58E-16
0784-06E	KA-8-3	1.9	1.860	1.33E-02	1.33E-01	3.52E-03	0.8301	44.6	5.011	0.923	0.003351	3.2E-06	2.73E-16
0784-06F	KA-8-3	2.3	3.221	1.57E-02	1.21E+00	1.04E-02	0.2427	7.5	1.466	3.810	0.003351	3.2E-06	1.53E-16
0784-06G	KA-8-3	6.5	25.423	2.32E-02	1.53E+00	3.34E-02	15.6920	61.7	92.455	5.740	0.003351	3.2E-06	9.23E-16

Table DR1 Results of $^{40}Ar/^{39}Ar$ dating for samples from Mary Valley, southeast Queensland, Australia

Y. X. Feng 2001071

Run ID#	Sample	Laser (Watt)	$^{40}Ar/^{39}Ar$	$^{38}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$	$^{40}Ar^*/^{39}Ar$	$^{40}Ar^*$%	Age (Ma)	±2 Sigma (Ma)	J Factor	±2 Sigma	^{40}Ar Moles
0784-07A	KA-8-3	0.7	1.407	1.34E-02	3.27E-02	4.48E-03	0.0838	6	0.507	0.118	0.003351	3.2E-06	3.33E-15
0784-07B	KA-8-3	0.7	0.238	1.25E-02	0.00E+00	6.65E-04	0.0410	17.3	0.248	0.057	0.003351	3.2E-06	8.62E-16
0784-07C	KA-8-3	0.8	0.182	1.22E-02	4.14E-03	4.13E-04	0.0600	33.1	0.362	0.047	0.003351	3.2E-06	1.01E-15
0784-07D	KA-8-3	0.8	0.163	1.22E-02	2.06E-03	4.25E-04	0.0367	22.7	0.222	0.039	0.003351	3.2E-06	1.19E-15
0784-07E	KA-8-3	1.0	0.177	1.24E-02	3.23E-03	4.77E-04	0.0363	20.5	0.219	0.058	0.003351	3.2E-06	8.89E-16
0784-07F	KA-8-3	1.8	0.401	1.23E-02	0.00E+00	1.17E-03	0.0548	13.7	0.331	0.159	0.003351	3.2E-06	7.61E-16
0784-07G	KA-8-3	6.4	1.866	1.22E-02	1.36E-01	3.76E-03	0.7657	41	4.623	0.603	0.003351	3.2E-06	8.30E-16
0795-01A	KE-8-2A	0.8	68.073	5.49E-02	1.01E-01	2.28E-01	0.8090	1.2	4.884	2.199	0.003351	3.2E-06	1.17E-13
0795-01B	KE-8-2A	1.1	36.194	3.53E-02	9.22E-02	1.21E-01	0.4231	1.2	2.556	1.310	0.003351	3.2E-06	5.97E-14
0795-01C	KE-8-2A	1.3	13.732	2.10E-02	1.21E-01	4.70E-02	-0.1426	-1	-0.862	0.585	0.003351	3.2E-06	2.00E-14
0795-01D	KE-8-2A	1.6	4.986	1.55E-02	1.05E-01	1.65E-02	0.1301	2.6	0.787	0.221	0.003351	3.2E-06	1.76E-14
0795-01E	KE-8-2A	1.9	3.104	1.39E-02	7.99E-02	1.03E-02	0.0751	2.4	0.454	0.119	0.003351	3.2E-06	2.01E-14
0795-01F	KE-8-2A	2.4	3.150	1.51E-02	1.03E-01	1.06E-02	0.0365	1.2	0.220	0.141	0.003351	3.2E-06	2.22E-14
0795-01G	KE-8-2A	3.2	2.635	1.45E-02	9.92E-02	8.82E-03	0.0373	1.4	0.226	0.089	0.003351	3.2E-06	4.06E-14
0795-01H	KE-8-2A	4.0	2.810	1.52E-02	1.34E-01	9.61E-03	-0.0200	-0.7	-0.121	0.132	0.003351	3.2E-06	2.25E-14
0795-01I	KE-8-2A	4.5	6.203	1.95E-02	1.81E-01	2.16E-02	-0.1676	-2.7	-1.014	0.510	0.003351	3.2E-06	1.23E-14
0795-02A	KE-8-2A	0.8	121.962	9.03E-02	1.11E-01	4.16E-01	-0.8344	-0.7	-5.051	4.021	0.003351	3.2E-06	1.63E-13
0795-02B	KE-8-2A	1.2	32.309	3.31E-02	1.07E-01	1.11E-01	-0.4060	-1.3	-2.456	1.085	0.003351	3.2E-06	6.41E-14
0795-02C	KE-8-2A	1.5	5.460	1.59E-02	8.39E-02	1.86E-02	-0.0172	-0.3	-0.104	0.501	0.003351	3.2E-06	8.46E-15
0795-02D	KE-8-2A	1.9	5.933	1.72E-02	1.05E-01	2.05E-02	-0.1284	-2.2	-0.776	0.271	0.003351	3.2E-06	1.26E-14
0795-02E	KE-8-2A	2.4	3.503	1.42E-02	1.01E-01	1.17E-02	0.0425	1.2	0.257	0.137	0.003351	3.2E-06	2.24E-14
0795-02F	KE-8-2A	2.8	1.886	1.34E-02	9.44E-02	6.12E-03	0.0852	4.5	0.515	0.088	0.003351	3.2E-06	3.98E-14
0795-02G	KE-8-2A	3.5	1.817	1.43E-02	1.05E-01	5.99E-03	0.0538	3	0.325	0.061	0.003351	3.2E-06	2.86E-14
0795-02H	KE-8-2A	4.5	4.798	1.83E-02	1.63E-01	1.63E-02	-0.0047	-0.1	-0.028	0.184	0.003351	3.2E-06	1.72E-14
0795-02I	KE-8-2A	4.4	9.130	1.44E-02	1.75E-01	2.87E-02	0.6700	7.3	4.046	3.791	0.003351	3.2E-06	1.21E-15

Table DR1 Results of $^{40}Ar/^{39}Ar$ dating for samples from Mary Valley, southeast Queensland, Australia

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Run ID#	Sample	Laser (Watt)	$^{40}Ar/^{39}Ar$	$^{38}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$	$^{40}Ar^*/^{39}Ar$	$^{40}Ar^*$%	Age (Ma)	±2 Sigma (Ma)	J Factor	±2 Sigma	^{40}Ar Moles
0822-01A	IM-10-5A	1.0	28.047	3.05E-02	3.39E-02	9.73E-02	-0.6984	-2.5	-4.130	1.903	0.003274	3.0E-06	2.10E-14
0822-01B	IM-10-5A	1.2	15.391	2.29E-02	3.51E-02	5.16E-02	0.1558	1	0.920	0.731	0.003274	3.0E-06	1.13E-14
0822-01C	IM-10-5A	1.4	6.132	1.57E-02	2.38E-02	2.05E-02	0.0823	1.3	0.486	0.479	0.003274	3.0E-06	4.70E-15
0822-01D	IM-10-5A	1.6	4.004	1.51E-02	1.82E-02	1.37E-02	-0.0399	-1	-0.236	0.334	0.003274	3.0E-06	3.22E-15
0822-01E	IM-10-5A	1.8	3.618	1.50E-02	2.02E-02	1.22E-02	0.0235	0.6	0.139	0.326	0.003274	3.0E-06	2.97E-15
0822-01F	IM-10-5A	2.1	3.771	1.55E-02	1.25E-02	1.18E-02	0.2803	7.4	1.655	0.282	0.003274	3.0E-06	4.29E-15
0822-01G	IM-10-5A	2.6	2.148	1.42E-02	1.17E-02	7.09E-03	0.0521	2.4	0.308	0.208	0.003274	3.0E-06	6.75E-15
0822-01H	IM-10-5A	3.5	0.741	1.29E-02	8.86E-03	2.36E-03	0.0429	5.8	0.254	0.034	0.003274	3.0E-06	9.13E-15
0822-01I	IM-10-5A	5.5	1.161	1.39E-02	1.46E-02	3.72E-03	0.0608	5.2	0.359	0.035	0.003274	3.0E-06	4.87E-14
									(Ma)	(Ma)			
0822-02A	IM-10-5A	1.0	12.543	2.13E-02	2.18E-02	4.30E-02	-0.1519	-1.2	-0.897	0.998	0.003274	3.0E-06	1.21E-14
0822-02B	IM-10-5A	1.2	7.522	1.73E-02	1.95E-02	2.50E-02	0.1485	2	0.877	0.410	0.003274	3.0E-06	7.29E-15
0822-02C	IM-10-5A	1.4	3.267	1.34E-02	2.37E-02	1.05E-02	0.1517	4.6	0.896	0.245	0.003274	3.0E-06	3.74E-15
0822-02D	IM-10-5A	1.6	2.611	1.49E-02	1.87E-02	8.25E-03	0.1733	6.6	1.023	0.235	0.003274	3.0E-06	3.54E-15
0822-02E	IM-10-5A	1.8	1.083	1.30E-02	1.63E-02	3.44E-03	0.0662	6.1	0.391	0.093	0.003274	3.0E-06	3.39E-15
0822-02F	IM-10-5A	2.1	0.539	1.33E-02	1.25E-02	1.65E-03	0.0503	9.4	0.297	0.042	0.003274	3.0E-06	4.73E-15
0822-02G	IM-10-5A	2.6	0.580	1.30E-02	8.14E-03	1.77E-03	0.0579	10	0.342	0.025	0.003274	3.0E-06	9.59E-15
0822-02H	IM-10-5A	3.5	0.635	1.28E-02	1.59E-02	1.91E-03	0.0704	11.1	0.416	0.024	0.003274	3.0E-06	1.34E-14
0822-02I	IM-10-5A	5.4	1.367	1.40E-02	1.78E-02	4.29E-03	0.1006	7.4	0.594	0.079	0.003274	3.0E-06	1.60E-14
0822-03A	IM-10-5A	0.8	9.432	2.01E-02	2.23E-02	3.19E-02	0.0063	0.1	0.037	0.343	0.003274	3.0E-06	2.87E-14
0822-03B	IM-10-5A	1.2	0.673	1.36E-02	7.12E-03	2.20E-03	0.0229	3.4	0.135	0.056	0.003274	3.0E-06	1.06E-14
0822-03C	IM-10-5A	1.4	0.992	1.37E-02	1.60E-03	3.16E-03	0.0571	5.8	0.337	0.033	0.003274	3.0E-06	2.80E-14
0822-03D	IM-10-5A	1.6	1.028	1.31E-02	7.78E-03	3.28E-03	0.0570	5.5	0.336	0.049	0.003274	3.0E-06	7.65E-15
0822-03E	IM-10-5A	1.9	1.116	1.32E-02	1.40E-02	3.39E-03	0.1143	10.3	0.675	0.082	0.003274	3.0E-06	2.70E-15
0822-03F	IM-10-5A	2.3	1.483	1.39E-02	4.01E-02	4.31E-03	0.2126	14.3	1.255	0.219	0.003274	3.0E-06	1.11E-15
0822-03G	IM-10-5A	3.5	2.427	1.42E-02	8.91E-02	5.98E-03	0.6669	27.5	3.935	0.616	0.003274	3.0E-06	9.60E-16
0822-03H	IM-10-5A	6.4	4.507	1.52E-02	1.80E-01	1.25E-02	0.8291	18.4	4.890	1.690	0.003274	3.0E-06	5.95E-16
0822-04A	IM-10-5A	0.8	6.115	1.74E-02	1.90E-02	2.06E-02	0.0297	0.5	0.175	0.225	0.003274	3.0E-06	2.77E-14
0822-04B	IM-10-5A	1.2	0.931	1.37E-02	6.35E-03	2.97E-03	0.0536	5.8	0.316	0.033	0.003274	3.0E-06	2.41E-14
0822-04C	IM-10-5A	1.4	0.907	1.33E-02	4.88E-03	2.93E-03	0.0406	4.5	0.240	0.040	0.003274	3.0E-06	9.36E-15
0822-04D	IM-10-5A	1.6	1.098	1.34E-02	6.83E-02	3.39E-03	0.0999	9.1	0.590	0.130	0.003274	3.0E-06	1.77E-15
0822-04E	IM-10-5A	1.9	1.765	1.58E-02	1.02E-01	5.61E-03	0.1153	6.5	0.681	0.275	0.003274	3.0E-06	1.02E-15
0822-04F	IM-10-5A	2.3	2.263	1.22E-02	4.08E-01	2.94E-03	1.4241	62.9	8.392	1.248	0.003274	3.0E-06	3.74E-16
0822-04G	IM-10-5A	6.5	3.756	1.52E-02	2.50E-01	1.14E-02	0.3931	10.5	2.321	1.490	0.003274	3.0E-06	5.54E-16

Table DR1 Results of $^{40}Ar/^{39}Ar$ dating for samples from Mary Valley, southeast Queensland, Australia

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* parameters used for correction for interfering isotopes:

$[^{36}Ar/^{37}Ar]_{Ca} = (2.64 \pm 0.04) \times 10^{-4}$

$[^{39}Ar/^{37}Ar]_{Ca} = (7.04 \pm 0.06) \times 10^{-4}$

$[^{40}Ar/^{39}Ar]_{K} = (8 \pm 4) \times 10^{-4}$