Table 1. Ar/Ar Summary Table

Sample: MB06-556 **Lab #**: 57546 **J**: 7.92E-04 ±7.92E-04 **IC**: 1.000 ±0.0000

Material: Groundmass concentrate **IGSN**:

	N	Temp (C)	^{40}Ar	^{40}Ar (10^3 fA)	± 1σ	^{39}Ar (10^3 fA)	± 1σ	^{38}Ar	± 1σ	^{37}Ar	± 1σ	^{36}Ar	± 1σ (10^{-2} fA)	Age (Ma)	± 1σ	$\%^{40}Ar^*$	$^{40}Ar^*/^{39}Ar_K$	K/Ca
	01A	550.0	0.0	0.05895	0.04930	9.23E-06	0.00013	0.03722	0.00019	0.00169	0.00006	0.19497	0.02342	195.56	12.0786	2.3	144.5243	0.4
	01B	625.0	0.0	0.00673	0.00366	0.00002	0.00010	0.00457	0.00009	0.00320	0.00006	0.02199	0.00589	15.36	1.1838	3.4	10.79391	0.5
	01C	700.0	0.0	0.00428	0.00683	0.00004	0.00011	0.00312	0.00006	0.00605	0.00007	0.01316	0.00590	13.50	0.6309	9.3	9.48066	0.6
	01D	750.0	0.0	0.00190	0.00124	0.00002	0.00008	0.00138	0.00006	0.00369	0.00006	0.00576	0.00359	13.15	0.7103	10.4	9.23458	0.5
	01E	800.0	0.0	0.00160	0.00102	0.00002	0.00007	0.00118	0.00005	0.00414	0.00006	0.00487	0.00370	11.97	0.8225	10.0	8.40331	0.4
	01F	875.0	0.0	0.00280	0.00515	0.00002	0.00009	0.00203	0.00007	0.00546	0.00007	0.00874	0.00636	12.58	1.1236	7.8	8.83308	0.4
	01G	975.0	0.0	0.00445	0.00596	0.00004	0.00011	0.00317	0.00006	0.00955	0.00008	0.01396	0.00612	11.68	0.6646	7.5	8.20089	0.3
P	01H	1075.0	0.0	0.00633	0.00370	0.00004	0.00013	0.00442	0.00006	0.01468	0.00010	0.02022	0.00704	12.13	0.7045	5.7	8.51789	0.2
P	01I	1250.0	0.0	0.03694	0.02355	0.00020	0.00042	0.02486	0.00017	0.00025	0.00003	0.11844	0.01445	13.97	0.3515	5.2	9.81570	61.9
P	01J	1300.0	0.0	0.00067	0.00095	5.56E-06	0.00006	0.00058	0.00005	0.01593	0.00015	0.00212	0.00291	12.45	2.2411	7.2	8.74226	2.75E
P	01K	1700.0	0.0	0.00060	0.00071	5.88E-06	0.00005	0.00054	0.00004	0.03397	0.00017	0.00196	0.00273	10.18	2.0334	6.8	7.14497	1.35E

Weighted Mean Age			13.24600 ±0.22195
Integrated			17.41491 ±17.33487
Plateau	**Steps**	H-K	13.58473 ±0.31147
Isochron			9.10747 ±9.08452

Sample: MB06-596 **Lab #**: 57550 **J**: 7.92E-04 ±7.92E-04 **IC**: 1.000 ±0.0000

Material: Groundmass concentrate **IGSN**:

N	Temp (C)	^{40}Ar	^{40}Ar (10^3 fA)	± 1σ	^{39}Ar (10^3 fA)	± 1σ	^{38}Ar	± 1σ	^{37}Ar	± 1σ	^{36}Ar	± 1σ (10^{-2} fA)	Age (Ma)	± 1σ	$\%^{40}Ar^*$	$^{40}Ar^*/^{39}Ar_K$	K/Ca
01A	550.0	0.0	0.04341	0.03085	0.00003	0.00012	0.02752	0.00014	0.00254	0.00006	0.14348	0.02036	51.69	3.3962	2.3	36.67841	0.9
01B	625.0	0.0	0.00317	0.00708	0.00008	0.00018	0.00281	0.00008	0.00429	0.00008	0.00837	0.00461	11.95	0.2622	22.1	8.38679	1.5
01C	700.0	0.0	0.00439	0.00597	0.00032	0.00067	0.00487	0.00008	0.01186	0.00009	0.00563	0.00388	12.11	0.0624	62.2	8.49734	2.1
01D	750.0	0.0	0.00243	0.00415	0.00023	0.00064	0.00331	0.00008	0.00839	0.00009	0.00184	0.00284	11.72	0.0662	77.8	8.22743	2.2
01E	800.0	0.0	0.00328	0.00625	0.00028	0.00080	0.00406	0.00006	0.01317	0.00010	0.00340	0.00317	11.71	0.0668	69.6	8.21687	1.7
01F	875.0	0.0	0.00295	0.00528	0.00021	0.00048	0.00356	0.00007	0.01337	0.00008	0.00398	0.00303	11.83	0.0737	60.4	8.30356	1.3
01G	975.0	0.0	0.00346	0.00594	0.00027	0.00064	0.00404	0.00008	0.01690	0.00011	0.00430	0.00389	11.78	0.0747	63.6	8.26833	1.2
01H	1075.0	0.0	0.00237	0.00364	0.00022	0.00044	0.00323	0.00007	0.01952	0.00012	0.00196	0.00260	11.43	0.0586	76.0	8.02033	0.9
01I	1250.0	0.0	0.00615	0.00304	0.00049	0.00062	0.00763	0.00009	0.12435	0.00035	0.00780	0.00442	11.46	0.0441	63.6	8.04020	0.3
01J	1700.0	0.0	0.00224	0.00192	0.00013	0.00023	0.00245	0.00007	0.04015	0.00019	0.00399	0.00347	11.76	0.1164	48.2	8.25390	0.3

Weighted Mean Age		11.67914 ±0.02255
Integrated		12.21248 ±12.17135
Plateau	**Steps**	
Isochron		11.47115 ±11.43476

Sample: MB06-697 **Lab #**: 61602 **J**: 4.86E-03 ±4.86E-03 **IC**: 1.000 ±0.0000

Material: Groundmass concentrate **IGSN**:

N	Power (W)	^{40}Ar	^{40}Ar (10^3 fA)	± 1σ	^{39}Ar (10^3 fA)	± 1σ	^{38}Ar	± 1σ	^{37}Ar	± 1σ	^{36}Ar	± 1σ (10^{-2} fA)	Age (Ma)	± 1σ	$\%^{40}Ar^*$	$^{40}Ar^*/^{39}Ar_K$	K/Ca
01A	17.5	0.0	0.16626	0.03594	0.02087	0.01352	5.48312	0.02480	1.18643	0.04858	0.45151	0.13659	13.96	0.1695	20.1	1.59729	1.8
01B	18.0	0.0	0.35552	0.04426	0.04695	0.01546	6.14407	0.02718	2.47326	0.05176	0.89981	0.23099	16.82	0.1268	25.4	1.92599	1.9
01C	18.5	0.0	0.49956	0.05025	0.11253	0.01950	9.13615	0.02529	6.47819	0.04860	1.03440	0.24346	15.21	0.0558	39.2	1.74039	1.8
01D	19.0	0.0	0.71663	0.06791	0.34684	0.03188	19.05043	0.02643	12.69578	0.04756	0.70739	0.19896	12.86	0.0149	71.2	1.47130	2.8
01E	19.5	0.0	1.50403	0.06952	1.01970	0.06149	38.63700	0.02738	28.96019	0.04733	0.34484	0.13275	12.06	0.0035	93.5	1.37886	3.6
01F	20.0	0.0	1.69065	0.09561	1.20365	0.08063	39.44397	0.02772	34.32956	0.04905	0.23899	0.11408	11.80	0.0027	96.1	1.34961	3.5
01G	20.5	0.0	1.20506	0.07357	0.85971	0.06848	28.76997	0.02516	30.84096	0.04677	0.18937	0.09838	11.75	0.0032	95.9	1.34337	2.8
01H	22.0	0.0	1.62877	0.10573	1.16375	0.08928	29.59158	0.02642	69.24194	0.04911	0.33635	0.12466	11.64	0.0031	95.1	1.33038	1.7
01I	24.0	0.0	1.12877	0.07484	0.78999	0.06425	14.62924	0.02420	188.8981	0.06003	0.54219	0.15331	11.51	0.0052	92.1	1.31612	0.4
01J	26.0	0.0	0.37173	0.04498	0.24439	0.02705	5.65582	0.02413	80.62000	0.04952	0.26904	0.11102	11.58	0.0120	87.0	1.32351	0.3
01K	30.0	0.0	0.35086	0.04476	0.22552	0.02705	6.19556	0.02505	57.75226	0.04734	0.24985	0.10459	11.60	0.0122	85.2	1.32590	0.4

Weighted Mean Age 11.78325 ±0.00146

Integrated 11.92334 ±11.88404

Plateau **Steps**

Isochron 11.46115 ±11.42482

Sample: MB06-595 **Lab #**: 57549 **J**: 7.91E-04 ±7.91E-04 **IC**: 1.000 ±0.0000

Material: Groundmass concentrate **IGSN**:

	N	Temp (C)	^{40}Ar	^{40}Ar (10^3 fA)	± 1σ	^{39}Ar (10^3 fA)	± 1σ	^{38}Ar	± 1σ	^{37}Ar	± 1σ	^{36}Ar	± 1σ (10^{-2} fA)	Age (Ma)	± 1σ	$\%^{40}Ar^*$	$^{40}Ar^*/^{39}Ar_K$	K/Ca
	01A	550.0	0.0	0.02122	0.00830	0.00002	0.00010	0.01359	0.00013	0.01611	0.00013	0.07006	0.01566	32.56	2.8679	2.5	23.02885	0.1
	01B	625.0	0.0	0.00163	0.00133	0.00008	0.00014	0.00169	0.00006	-0.00262	0.00007	0.00305	0.00316	12.55	0.1632	44.7	8.82928	-2.5
P	01C	700.0	0.0	0.00175	0.00134	0.00016	0.00023	0.00240	0.00006	-0.00048	0.00009	0.00131	0.00225	11.93	0.0614	77.9	8.38893	-26.9
P	01D	750.0	0.0	0.00155	0.00099	0.00017	0.00022	0.00234	0.00006	0.00437	0.00008	0.00056	0.00166	11.85	0.0454	89.5	8.33434	3.0
P	01E	800.0	0.0	0.00180	0.00149	0.00020	0.00028	0.00263	0.00007	0.00528	0.00007	0.00054	0.00163	11.86	0.0401	91.3	8.34200	3.0
P	01F	875.0	0.0	0.00189	0.00144	0.00021	0.00028	0.00273	0.00006	0.00629	0.00015	0.00057	0.00193	11.88	0.0435	91.2	8.35551	2.6
P	01G	975.0	0.0	0.00183	0.00121	0.00018	0.00025	0.00245	0.00007	0.00925	0.00009	0.00100	0.00200	11.92	0.0496	84.1	8.38540	1.6
	01H	1075.0	0.0	0.00185	0.00139	0.00019	0.00022	0.00256	0.00006	0.00929	0.00008	0.00099	0.00194	11.60	0.0455	84.5	8.15647	1.6
	01I	1250.0	0.0	0.00409	0.00586	0.00037	0.00064	0.00531	0.00007	0.06150	0.00024	0.00373	0.00333	11.61	0.0491	73.9	8.16699	0.5
	01J	1700.0	0.0	0.00132	0.00194	0.00010	0.00016	0.00159	0.00005	0.01634	0.00012	0.00189	0.00222	11.54	0.1041	58.4	8.11548	0.5

Weighted Mean Age 11.80765 ±0.01732

Integrated 12.09345 ±12.05311

Plateau **Steps** C-G 11.87446 ±0.02294

Isochron 11.72851 ±11.69047

Sample: MB06-546 **Lab #**: 57545 **J**: 7.93E-04 ±7.93E-04 **IC**: 1.000 ±0.0000

Material: Groundmass concentrate **IGSN**:

N	Temp (C)	^{40}Ar	^{40}Ar (10^3 fA)	± 1σ	^{39}Ar (10^3 fA)	± 1σ	^{38}Ar	± 1σ	^{37}Ar	± 1σ	^{36}Ar	± 1σ (10^{-2} fA)	Age (Ma)	± 1σ	$\%^{40}Ar^*$	$^{40}Ar^*/^{39}Ar_K$	K/Ca
01A	550.0	0.0	0.01659	0.00652	0.00004	0.00012	0.01074	0.00011	0.00606	0.00006	0.05402	0.01120	20.88	1.1145	3.8	14.67585	0.6
01B	625.0	0.0	0.00117	0.00089	0.00009	0.00019	0.00133	0.00006	0.00047	0.00003	0.00139	0.00208	12.64	0.1057	65.2	8.86881	14.6
01C	700.0	0.0	0.00196	0.00169	0.00021	0.00030	0.00270	0.00005	0.00105	0.00004	0.00083	0.00211	11.68	0.0468	87.6	8.18870	16.0
01D	750.0	0.0	0.00190	0.00119	0.00021	0.00034	0.00274	0.00006	0.00098	0.00004	0.00055	0.00155	11.51	0.0363	91.4	8.06959	17.6
01E	800.0	0.0	0.00241	0.00372	0.00027	0.00051	0.00345	0.00007	0.00193	0.00006	0.00074	0.00190	11.54	0.0416	90.9	8.09364	11.2
01F	875.0	0.0	0.00200	0.00161	0.00022	0.00034	0.00282	0.00005	0.00057	0.00004	0.00076	0.00181	11.55	0.0403	88.8	8.09694	31.0
01G	975.0	0.0	0.00255	0.00428	0.00027	0.00058	0.00362	0.00006	0.00104	0.00005	0.00125	0.00227	11.49	0.0485	85.6	8.05546	20.8
01H	1075.0	0.0	0.00357	0.00576	0.00039	0.00074	0.00509	0.00007	0.00634	0.00009	0.00176	0.00255	11.27	0.0411	85.6	7.90468	4.9
01I	1250.0	0.0	0.00697	0.00306	0.00068	0.00072	0.00940	0.00008	0.02199	0.00008	0.00504	0.00381	11.47	0.0272	78.8	8.04083	2.5
01J	1300.0	0.0	0.00078	0.00094	0.00007	0.00013	0.00101	0.00004	0.00225	0.00005	0.00075	0.00175	11.43	0.1092	71.8	8.01570	2.5
01K	1700.0	0.0	0.00055	0.00060	0.00005	0.00013	0.00069	0.00003	0.00436	0.00008	0.00057	0.00179	11.87	0.1664	69.8	8.32359	0.9

Weighted Mean Age 11.51587 ±0.01416

Integrated 11.68554 ±11.64782

Plateau **Steps**

Isochron 11.46177 ±11.42544

Sample: MB06-560 **Lab #**: 57547 **J**: 7.88E-04 ±7.88E-04 **IC**: 1.000 ±0.0000

Material: Groundmass concentrate **IGSN**:

N	Temp (C)	^{40}Ar	^{40}Ar (10^3 fA)	± 1σ	^{39}Ar (10^3 fA)	± 1σ	^{38}Ar	± 1σ	^{37}Ar	± 1σ	^{36}Ar	± 1σ (10^{-2} fA)	Age (Ma)	± 1σ	$\%^{40}Ar^*$	$^{40}Ar^*/^{39}Ar_K$	K/Ca
01A	550.0	0.0	0.06022	0.04570	0.00002	0.00015	0.03789	0.00020	0.00104	0.00010	0.19867	0.02222	94.06	4.8833	2.5	67.95673	1.7
01B	625.0	0.0	0.00373	0.00690	0.00010	0.00021	0.00355	0.00006	0.00373	0.00010	0.01055	0.00571	8.41	0.2514	16.4	5.93217	2.2
01C	700.0	0.0	0.00254	0.00526	0.00013	0.00022	0.00281	0.00009	0.01260	0.00015	0.00578	0.00400	9.49	0.1468	33.1	6.69756	0.8
01D	750.0	0.0	0.00152	0.00117	0.00008	0.00016	0.00175	0.00006	0.01313	0.00012	0.00325	0.00345	9.95	0.1809	37.3	7.02216	0.5
01E	800.0	0.0	0.00177	0.00122	0.00008	0.00015	0.00178	0.00006	0.01084	0.00011	0.00395	0.00294	10.41	0.1516	34.3	7.34917	0.6
01F	875.0	0.0	0.00232	0.00293	0.00008	0.00019	0.00214	0.00007	0.00946	0.00008	0.00588	0.00425	10.02	0.2224	25.2	7.07046	0.7
01G	975.0	0.0	0.00230	0.00278	0.00009	0.00016	0.00230	0.00005	0.00977	0.00007	0.00587	0.00405	9.16	0.1970	24.9	6.46619	0.7
01H	1075.0	0.0	0.00599	0.00458	0.00009	0.00017	0.00465	0.00010	0.01739	0.00012	0.01827	0.00621	9.83	0.3101	10.0	6.93708	0.4
01I	1250.0	0.0	0.01284	0.00556	0.00023	0.00039	0.01036	0.00011	0.00009	0.00003	0.03832	0.00865	9.48	0.1635	11.8	6.68696	211.3
01J	1700.0	0.0	0.00043	0.00067	7.72E-06	0.00006	0.00048	0.00004	0.03340	0.00015	0.00130	0.00230	11.11	1.2962	13.9	7.84622	1.80E-02

Weighted Mean Age 9.69307 ±0.06583

Integrated 11.67847 ±11.64165

Plateau **Steps**

Isochron 8.96796 ±8.94571

Sample: MB06-761 **Lab #**: 57551 **J**: 7.95E-04 ±7.95E-04 **IC**[1]: 1.000 ±0.0000

Material: Groundmass concentrate **IGSN**:

N	Temp (C)	^{40}Ar	^{40}Ar (10^3 fA)	± 1σ	^{39}Ar (10^3 fA)	± 1σ	^{38}Ar	± 1σ	^{37}Ar	± 1σ	^{36}Ar	± 1σ (10^{-2} fA)	Age (Ma)	± 1σ	$\%^{40}Ar^*$	$^{40}Ar^*/^{39}Ar_K$	K/Ca
01A	550.0	0.0	0.03055	0.01704	0.00002	0.00009	0.01961	0.00014	0.00128	0.00005	0.10130	0.01647	45.22	3.7415	2.0	31.93397	1.2
01B	625.0	0.0	0.00117	0.00166	0.00008	0.00020	0.00137	0.00003	0.00253	0.00006	0.00165	0.00235	12.15	0.1294	58.7	8.50065	2.5
01C	700.0	0.0	0.00176	0.00161	0.00018	0.00027	0.00249	0.00006	0.00442	0.00007	0.00085	0.00219	11.67	0.0543	85.8	8.16428	3.3
01D	750.0	0.0	0.00165	0.00101	0.00019	0.00026	0.00258	0.00006	0.00390	0.00007	0.00047	0.00168	11.28	0.0407	91.6	7.88761	3.8
01E	800.0	0.0	0.00211	0.00307	0.00025	0.00051	0.00344	0.00029	0.00591	0.00007	0.00038	0.00157	11.24	0.0384	94.8	7.86283	3.4
01F	875.0	0.0	0.00208	0.00224	0.00025	0.00045	0.00324	0.00008	0.00719	0.00009	0.00035	0.00173	11.26	0.0374	95.2	7.87538	2.7
01G	975.0	0.0	0.00176	0.00119	0.00021	0.00023	0.00277	0.00006	0.00772	0.00010	0.00049	0.00171	11.17	0.0379	92.1	7.81543	2.1
01H	1075.0	0.0	0.00181	0.00129	0.00021	0.00029	0.00272	0.00007	0.01054	0.00010	0.00056	0.00171	11.04	0.0378	91.2	7.72301	1.6
01I	1250.0	0.0	0.00314	0.00551	0.00031	0.00079	0.00441	0.00006	0.07629	0.00024	0.00261	0.00330	10.98	0.0593	76.8	7.67870	0.3
01J	1700.0	0.0	0.00130	0.00094	0.00010	0.00021	0.00163	0.00004	0.02090	0.00012	0.00175	0.00231	11.44	0.1028	61.0	8.00540	0.4

Weighted Mean Age 11.23842 ±0.01549

Integrated 11.62923 ±11.59193

Plateau **Steps**

Isochron 11.17528 ±11.14074

IC Factor[1]: H1/CDD intercalibration, P: plateau step

Constants used

Atmospheric argon ratios

$(^{40}Ar/^{36}Ar)_A$	295.5 ±0.5	Nier (1950)
$(^{40}Ar/^{38}Ar)_A$	1.58E+03 ±2.0	Nier (1950)

Interferring isotope production ratios

$(^{40}Ar/^{39}Ar)_K$	0.0 ±0.0004
$(^{38}Ar/^{39}Ar)_K$	0.0108 ±0.0
$(^{37}Ar/^{39}Ar)_K$	0.0 ±0.0
$(^{39}Ar/^{37}Ar)_{Ca}$	0.0007 ±5.00E-05
$(^{38}Ar/^{37}Ar)_{Ca}$	0.0001 ±0.0
$(^{36}Ar/^{37}Ar)_{Ca}$	0.0003 ±2.00E-05

Decay constants

$^{40}K\ \lambda\varepsilon$	4.96E-10 ±9.30E-13 a^{-1}
$^{40}K\ \lambda\beta$	5.81E-11 ±1.60E-13 a^{-1}
^{39}Ar	7.07E-06 ±0.0 a^{-1}
^{37}Ar	0.0198 ±0.0 a^{-1}