**GSA Data Repository #2007258/Yang et al., B26085**

**Supplementary data: $^{40}Ar/^{39}Ar$ analytical data.**

**JH-62 Hornblende (furnace step-heating analysis)**

| t ºC | cum.39 | $^{36}Ar/^{39}Ar$ ($\times10^{-5}$) | $^{37}Ar/^{39}Ar$ | $^{38}Ar/^{39}Ar$ | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{5}$) | Age (Ma) | 1 σ | Ca/K | 1 σ |
|---|---|---|---|---|---|---|---|---|---|---|
| 850 | 0.03 | 3240 | 2.80 | 0.139 | 52.3 | 0.016 | 213.0 | 13.6 | 9.4 | 0.7 |
| 950 | 0.07 | 7.38 | 3.01 | 0.603 | 20.9 | 2.83 | 106.6 | 2.4 | 10.0 | 0.5 |
| 975 | 0.14 | 2.98 | 3.00 | 0.580 | 22.2 | 7.45 | 113.3 | 1.5 | 10.0 | 0.5 |
| 1000 | 0.27 | 1.85 | 3.01 | 0.571 | 22.5 | 12.2 | 114.7 | 1.5 | 10.0 | 0.5 |
| 1025 | 0.37 | 2.48 | 3.00 | 0.569 | 22.3 | 8.98 | 113.6 | 1.5 | 10.0 | 0.5 |
| 1050 | 0.51 | 1.66 | 3.02 | 0.562 | 22.4 | 13.5 | 114.4 | 1.4 | 10.1 | 0.5 |
| 1075 | 0.59 | 2.71 | 3.04 | 0.563 | 22.0 | 8.11 | 112.2 | 1.4 | 10.1 | 0.5 |
| 1100 | 0.66 | 3.32 | 3.05 | 0.563 | 21.9 | 6.58 | 111.6 | 1.6 | 10.2 | 0.5 |
| 1140 | 0.73 | 3.41 | 3.07 | 0.563 | 22.3 | 6.53 | 113.7 | 1.7 | 10.2 | 0.5 |
| 1180 | 0.81 | 48.2 | 3.09 | 0.563 | 22.7 | 0.472 | 115.9 | 1.5 | 10.3 | 0.5 |
| 1220 | 0.88 | 53.3 | 3.09 | 0.564 | 22.7 | 0.426 | 115.7 | 1.6 | 10.3 | 0.5 |
| 1400 | 0.94 | 378 | 3.10 | 0.566 | 23.9 | 0.063 | 117.1 | 1.8 | 10.3 | 0.5 |
| 1600 | 1.00 | 369 | 3.14 | 0.574 | 26.3 | 0.071 | 129.3 | 1.6 | 10.5 | 0.5 |

Sample mass = 409.9 mg
J-value = 0.002917 ± 0.000030
Integrated date = 118.3 ± 1.3 Ma
Plateau Age = 113.9 ± 1.6 Ma ($^{39}Ar$ = 81.1%, steps from 3 to 11), MSWD = 0.90
Isochron Age = 111.8 ± 2.9 Ma; $^{40}Ar/^{36}Ar_i$ = 1018 ± 730, MSWD = 0.93

**JH-75 Hornblende (Laser single-grain fusion analysis)**

| No. | $^{36}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{37}Ar/^{39}Ar$ | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ | Ca/K | 1 σ |
|---|---|---|---|---|---|---|---|---|---|
| 101 | 8.54 | 3.97 | 3.93 | 24.7 | 2.89 | 113.5 | 1.4 | 10.7 | 0.5 |
| 102 | 3.66 | 3.75 | 3.53 | 23.4 | 6.39 | 113.8 | 1.5 | 10.2 | 0.5 |
| 103 | 4.05 | 3.89 | 3.68 | 23.6 | 5.82 | 114.2 | 1.5 | 10.5 | 0.5 |
| 104 | 4.16 | 4.01 | 3.76 | 22.8 | 5.48 | 110.3 | 1.3 | 10.7 | 0.5 |
| 105 | 4.28 | 3.81 | 3.66 | 23.4 | 5.46 | 113.0 | 1.4 | 10.2 | 0.5 |
| 106 | 3.79 | 3.82 | 3.58 | 22.8 | 6.02 | 110.9 | 1.4 | 10.2 | 0.5 |
| 107 | 3.32 | 3.90 | 3.82 | 23.0 | 6.92 | 112.5 | 1.4 | 10.4 | 0.5 |
| 108 | 3.69 | 3.81 | 3.60 | 22.9 | 6.21 | 111.4 | 1.4 | 10.2 | 0.5 |
| 201 | 2.65 | 3.13 | 3.81 | 23.2 | 8.77 | 114.3 | 1.5 | 10.4 | 0.5 |
| 202 | 4.39 | 3.13 | 3.77 | 23.8 | 5.42 | 114.6 | 1.5 | 10.5 | 0.5 |
| 203 | 4.92 | 3.06 | 3.61 | 23.8 | 4.85 | 114.0 | 1.4 | 10.2 | 0.5 |
| 204 | 3.08 | 3.02 | 3.68 | 23.5 | 7.61 | 114.7 | 1.5 | 10.1 | 0.5 |
| 205 | 3.14 | 3.15 | 3.59 | 23.0 | 7.34 | 112.5 | 1.6 | 10.5 | 0.5 |
| 206 | 2.41 | 3.17 | 3.69 | 22.9 | 9.48 | 113.0 | 1.4 | 10.6 | 0.5 |
| 207 | 5.87 | 3.07 | 3.63 | 24.1 | 4.11 | 113.9 | 1.5 | 10.2 | 0.5 |
| 208 | 3.77 | 3.78 | 3.39 | 23.4 | 6.20 | 113.8 | 1.6 | 10.2 | 0.5 |
| 209 | 6.03 | 3.96 | 3.73 | 23.8 | 3.95 | 112.5 | 1.4 | 10.5 | 0.5 |
| 210 | 3.43 | 3.97 | 3.68 | 22.9 | 6.68 | 112.0 | 1.4 | 10.5 | 0.5 |
| 211 | 3.45 | 3.85 | 3.66 | 23.0 | 6.67 | 112.4 | 1.4 | 10.2 | 0.5 |
| 212 | 4.84 | 3.85 | 3.68 | 23.5 | 4.85 | 112.6 | 1.4 | 10.2 | 0.5 |

J-value = 0.002881 ± 0.000035
Total Gas Age = 112.7 ± 1.3 Ma
Mean Age = 112.9 ± 0.6 Ma (n = 20), MSWD = 0.75
Isochron Age = 109.9 ± 3.4 Ma; $^{40}Ar/^{36}Ar_i$ = 375 ± 110, MSWD = 1.4

**JH-74 Muscovite (Laser single-grain fusion analysis)**

| No. | $^{36}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-6}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{+4}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|
| 1 | 5.59 | 0.721 | 1.33 | 22.7 | 0.406 | 106.0 | 1.3 |
| 2 | 1.96 | 1.48 | 1.09 | 23.0 | 1.18 | 112.8 | 1.5 |
| 3 | 1.58 | 0.490 | 1.30 | 22.4 | 1.42 | 110.3 | 1.4 |
| 4 | 2.41 | 1.42 | 1.26 | 23.1 | 0.959 | 112.8 | 1.6 |
| 5 | 1.72 | 0.516 | 1.25 | 22.1 | 1.28 | 108.7 | 1.4 |
| 6 | 1.06 | 0.486 | 1.30 | 22.1 | 2.09 | 109.7 | 1.4 |
| 7 | 1.02 | 2770 | 1.19 | 22.6 | 2.23 | 112.3 | 1.4 |
| 8 | 0.512 | 0.527 | 1.16 | 22.3 | 4.35 | 111.4 | 1.4 |
| 9 | 2.04 | 3.66 | 0. 702 | 23.9 | 1.17 | 117.1 | 2.1 |
| 10 | 1.66 | 6480 | 1.05 | 23.0 | 1.38 | 113.0 | 1.5 |
| 11 | 1.28 | 8180 | 1.12 | 22.3 | 1.74 | 110.2 | 1.4 |
| 12 | 0.863 | 0.913 | 1.15 | 22.4 | 2.59 | 111.3 | 1.4 |
| 13 | 1.48 | 0.606 | 1.32 | 22.2 | 1.50 | 109.8 | 1.6 |
| 14 | 2.82 | 14400 | 1.11 | 23.1 | 0.820 | 112.0 | 1.7 |
| 15 | 1.14 | 16800 | 1.08 | 23.0 | 2.02 | 114.1 | 1.4 |
| 16 | 1.86 | 0.489 | 1.27 | 21.8 | 1.17 | 107.1 | 1.3 |
| 17 | 2.26 | 4.45 | 0.578 | 24.0 | 1.06 | 117.1 | 2.8 |
| 18 | 0.754 | 5.41 | 0.941 | 24.1 | 3.19 | 119.8 | 3.6 |
| 19 | 0.810 | 0.876 | 1.05 | 23.0 | 2.84 | 114.3 | 1.5 |

J= 0.002881 ± 0.000035
Total Gas Age = 110.7 ± 1.3 Ma
Mean Age = 111.6 ± 1.3 Ma (18 of 19 points), MSWD = 2.7

**JH-75 Biotite (Laser single-grain fusion analysis)**

| No. | $^{36}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|
| 2805 | 20.1 | 115 | 2.86 | 28.3 | 1.41 | 112.6 | 1.5 |
| 2806 | 7.33 | 3.21 | 2.56 | 27.1 | 3.70 | 125.1 | 1.8 |
| 2807 | 1.65 | 24.6 | 1.66 | 23.0 | 13.9 | 113.2 | 1.4 |
| 2808 | 4.66 | 0.000949 | 2.07 | 23.8 | 5.10 | 112.7 | 1.5 |
| 2809 | 2.12 | 52.9 | 1.72 | 25.1 | 11.8 | 122.6 | 1.5 |
| 2810 | 5.02 | 11.8 | 1.97 | 24.3 | 4.84 | 114.6 | 1.4 |
| 2811 | 8.03 | 37.7 | 1.91 | 25.0 | 3.11 | 113.9 | 1.5 |
| 2812 | 4.61 | 31.3 | 1.94 | 23.7 | 5.14 | 112.2 | 1.4 |
| 2813 | 8.39 | 4.46 | 2.27 | 27.4 | 3.26 | 124.8 | 1.7 |
| 2814 | 2.58 | 0.00462 | 1.24 | 23.6 | 9.13 | 114.6 | 1.9 |
| 2815 | 3.02 | 30.8 | 1.75 | 23.4 | 7.73 | 113.0 | 1.5 |
| 2816 | 3.01 | 0.00146 | 1.70 | 23.9 | 7.96 | 115.8 | 1.5 |
| 2817 | 5.16 | 14.5 | 2.57 | 27.4 | 5.32 | 129.7 | 1.8 |
| 2818 | 12.7 | 19.5 | 2.70 | 27.7 | 2.18 | 120.1 | 1.7 |
| 2819 | 1.80 | 6.42 | 1.76 | 22.9 | 12.7 | 112.3 | 1.5 |
| 2820 | 7.35 | 12.8 | 2.30 | 25.9 | 3.52 | 119.0 | 1.5 |
| 2821 | 12.5 | 25.9 | 2.82 | 29.4 | 2.36 | 128.7 | 1.8 |
| 2822 | 13.0 | 37.3 | 2.53 | 26.2 | 2.01 | 112.5 | 1.4 |
| 2823 | 3.34 | 282 | 2.03 | 23.4 | 7.02 | 113.0 | 1.4 |
| 2824 | 4.88 | 39.1 | 2.27 | 25.4 | 5.20 | 120.3 | 1.5 |

J= 0.002881 ± 0.000035
Total Gas Age = 116.4 ± 1.4 Ma,
Mean Age = 113.3 ± 0.8 Ma (12 points), MSWD = 0.56
Isochron Age = 113.9 ± 3.0 Ma; $^{40}Ar/^{36}Ar_i$ = 284 ± 28, MSWD = 1.00

**JH-62 Biotite (Laser single-grain fusion analysis)**

| No. | $^{36}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|
| 1901 | 17.7 | 0.00164 | 7.65 | 27.6 | 1.56 | 112.4 | 1.7 |
| 1902 | 8.50 | 0.292 | 7.46 | 24.5 | 2.88 | 110.8 | 1.4 |
| 1903 | 2.06 | 6.60 | 7.08 | 22.3 | 10.8 | 109.3 | 1.6 |
| 1904 | 3.53 | 0.000766 | 6.84 | 22.9 | 6.48 | 110.0 | 1.5 |
| 1905 | 5.15 | 14.5 | 7.46 | 23.7 | 4.60 | 111.5 | 1.3 |
| 1906 | 26.1 | 8.18 | 7.91 | 30.5 | 1.17 | 114.9 | 1.7 |
| 1907 | 2.88 | 6.81 | 7.16 | 23.4 | 8.11 | 113.4 | 1.4 |
| 1908 | 2.51 | 14.0 | 7.35 | 22.9 | 9.13 | 111.7 | 1.5 |
| 1909 | 4.16 | 5.90 | 7.77 | 23.8 | 5.73 | 113.6 | 1.4 |
| 1910 | 3.25 | 16.8 | 7.27 | 23.6 | 7.28 | 114.1 | 1.5 |
| 1911 | 2.87 | 6.86 | 7.63 | 23.8 | 8.30 | 115.3 | 1.4 |
| 1912 | 13.6 | 10.3 | 7.04 | 26.4 | 1.93 | 112.3 | 1.6 |
| 1913 | 2.87 | 0.000826 | 7.33 | 23.5 | 8.19 | 113.9 | 1.5 |
| 1914 | 0.779 | 0.519 | 7.47 | 22.7 | 29.1 | 112.8 | 1.5 |
| 1915 | 2.23 | 0.00155 | 7.43 | 23.6 | 10.6 | 115.3 | 1.5 |
| 1916 | 2.00 | 9.05 | 6.55 | 23.1 | 11.6 | 113.3 | 2.4 |
| 1917 | 2.24 | 0.846 | 7.06 | 22.6 | 10.1 | 110.5 | 1.4 |
| 1918 | 4.31 | 0.00217 | 7.06 | 23.7 | 5.49 | 112.6 | 1.6 |

J = 0.002881 ± 0.000035
Total Gas Age = 112.3 ± 1.3 Ma
Mean Age = 112.6 ± 0.9 Ma, MSWD = 1.4, n = 18
Isochron Age = 112.4 ± 3.1 Ma; $^{40}Ar/^{36}Ar_i$ = 309 ± 34, MSWD = 2.4

**JH-66 Biotite (Laser single-grain fusion analysis)**

| No. | $^{36}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|
| 1 | 71.9 | 0.000919 | 3.84 | 43.1 | 0.599 | 110.0 | 1.4 |
| 2 | 9.45 | 0.00141 | 2.57 | 25.1 | 2.66 | 112.3 | 1.5 |
| 3 | 6.25 | 0.0042 | 2.17 | 24.9 | 3.98 | 115.8 | 1.7 |
| 4 | 7.16 | 0.00355 | 2.43 | 24.9 | 3.47 | 114.3 | 1.7 |
| 5 | 1.83 | 0.00117 | 2.13 | 23.1 | 12.6 | 113.6 | 1.5 |
| 6 | 16.0 | 0.00123 | 2.52 | 27.1 | 1.69 | 112.4 | 1.5 |
| 7 | 6.26 | 0.00086 | 2.56 | 24.5 | 3.92 | 114.0 | 1.4 |
| 8 | 4.22 | 79.8 | 2.49 | 23.8 | 5.64 | 113.4 | 1.6 |
| 9 | 5.74 | 6.03 | 2.60 | 24.8 | 4.33 | 116.3 | 1.5 |
| 10 | 9.96 | 13.0 | 2.78 | 26.0 | 2.61 | 115.9 | 1.5 |
| 11 | 4.60 | 17.0 | 2.39 | 23.9 | 5.19 | 113.3 | 1.5 |
| 12 | 32.5 | 6.60 | 2.94 | 31.6 | 0.972 | 110.8 | 1.4 |
| 13 | 2.22 | 0.0013 | 2.34 | 23.5 | 10.6 | 114.7 | 1.4 |
| 14 | 3.21 | 1.20 | 2.45 | 23.6 | 7.35 | 113.9 | 1.4 |
| 15 | 6.49 | 6.72 | 2.51 | 24.7 | 3.81 | 114.6 | 1.4 |
| 16 | 2.58 | 0.000688 | 2.44 | 22.9 | 8.88 | 111.5 | 1.4 |
| 17 | 3.05 | 22.8 | 2.47 | 23.7 | 7.76 | 114.5 | 1.5 |
| 18 | 0.917 | 0.000468 | 3.07 | 22.2 | 24.2 | 110.5 | 1.3 |
| 19 | 2.46 | 3.28 | 2.32 | 23.6 | 9.58 | 114.9 | 1.4 |
| 20 | 3.79 | 11.9 | 2.47 | 23.7 | 6.25 | 113.4 | 1.4 |
| 21 | 1.24 | 2.33 | 2.27 | 22.7 | 18.3 | 112.4 | 1.3 |

J = 0.002881 ± 0.000035
Total Gas Age = 113.1 ± 1.3 Ma
Mean Age = 113.3 ± 0.8 Ma, MSWD = 1.5, n = 21
Isochron Age = 114.0 ± 3.0 Ma; $^{40}Ar/^{36}Ar_i$ = 287 ± 15, MSWD = 1.8

**JH-67 Biotite (Laser single-grain fusion analysis)**

| No. | $^{36}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|
| 1 | 95.9 | 0.0074 | 4.21 | 51.0 | 0.532 | 113.9 | 2.9 |
| 2 | 16.8 | 0.00232 | 2.70 | 27.1 | 1.61 | 111.4 | 1.6 |
| 3 | 2.31 | 0.000737 | 2.45 | 22.2 | 9.61 | 108.1 | 1.4 |
| 4 | 2.20 | 0.00142 | 2.33 | 23.0 | 10.5 | 112.6 | 1.4 |
| 5 | 6.95 | 0.000951 | 2.66 | 24.0 | 3.45 | 110.5 | 1.4 |
| 6 | 1.96 | 0.000734 | 2.24 | 22.6 | 11.5 | 110.9 | 1.4 |
| 7 | 1.88 | 0.0015 | 2.49 | 22.5 | 12.0 | 110.6 | 1.5 |
| 8 | 2.11 | 0.00321 | 2.39 | 22.8 | 10.8 | 111.7 | 1.8 |
| 9 | 5.80 | 0.00131 | 2.76 | 23.8 | 4.11 | 111.3 | 1.4 |
| 10 | 3.49 | 2.99 | 2.54 | 22.8 | 6.55 | 109.8 | 1.4 |
| 11 | 2.91 | 6.12 | 2.55 | 23.1 | 7.94 | 111.9 | 1.5 |
| 12 | 2.95 | 13.6 | 2.50 | 23.4 | 7.95 | 113.5 | 1.5 |
| 13 | 1.58 | 6.37 | 2.46 | 22.2 | 14.0 | 109.6 | 1.4 |
| 14 | 1.73 | 3.50 | 2.57 | 22.1 | 12.7 | 108.8 | 1.4 |
| 15 | 5.56 | 0.00146 | 2.48 | 24.1 | 4.34 | 113.1 | 1.6 |
| 16 | 2.78 | 0.923 | 2.74 | 22.3 | 8.04 | 108.3 | 1.3 |
| 17 | 2.00 | 14.7 | 2.67 | 22.4 | 11.2 | 109.7 | 1.4 |
| 18 | 1.75 | 0.00103 | 2.33 | 22.5 | 12.8 | 110.4 | 1.4 |
| 19 | 1.35 | 0.628 | 2.87 | 22.3 | 16.5 | 110.3 | 1.4 |
| 20 | 95.9 | 0.0074 | 4.21 | 51.0 | 0.532 | 113.9 | 2.9 |

J = 0.002881 ± 0.000035
Total Gas Age = 110.2 ± 1.3 Ma,
Mean Age = 110.6 ± 0.7 Ma, MSWD = 1.17, n = 20
Isochron Age = 110.6 ± 2.9 Ma; $^{40}Ar/^{36}Ar_i$ = 305 ± 15, MSWD = 1.8

**JH-70 Biotite (Laser single-grain fusion analysis)**

| No. | $^{36}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|
| 1 | 76.4 | 12.1 | 3.14 | 44.6 | 0.584 | 110.8 | 3.1 |
| 2 | 16.7 | 18.3 | 2.24 | 27.5 | 1.65 | 113.5 | 1.8 |
| 3 | 12.9 | 43.9 | 1.81 | 25.7 | 2.00 | 110.2 | 1.5 |
| 4 | 16.2 | 26.0 | 2.08 | 27.2 | 1.68 | 112.8 | 1.8 |
| 5 | 18.0 | 0.00118 | 2.85 | 28.1 | 1.56 | 114.3 | 1.4 |
| 6 | 8.75 | 0.00189 | 1.91 | 24.8 | 2.83 | 111.6 | 1.8 |
| 7 | 15.3 | 0.00669 | 2.27 | 27.4 | 1.79 | 114.9 | 3.0 |
| 8 | 7.36 | 276 | 1.89 | 24.2 | 3.29 | 110.8 | 1.6 |
| 9 | 5.61 | 46.5 | 3.91 | 23.4 | 4.16 | 109.3 | 1.4 |
| 10 | 12.3 | 1070 | 2.03 | 25.6 | 2.08 | 111.0 | 1.7 |
| 11 | 5.19 | 0.00127 | 1.64 | 24.1 | 4.64 | 113.4 | 1.7 |
| 12 | 4.02 | 140 | 1.53 | 23.5 | 5.86 | 112.5 | 1.6 |
| 13 | 13.6 | 71.8 | 1.99 | 26.3 | 1.93 | 112.3 | 1.5 |
| 14 | 5.52 | 0.00173 | 1.72 | 24.3 | 4.40 | 114.0 | 1.6 |
| 15 | 9.97 | 16.2 | 1.97 | 25.1 | 2.51 | 111.4 | 1.6 |
| 16 | 10.3 | 7.61 | 1.81 | 25.6 | 2.49 | 113.5 | 1.6 |
| 17 | 11.9 | 40.5 | 2.00 | 25.9 | 2.18 | 112.8 | 2.4 |
| 18 | 7.76 | 52.8 | 1.50 | 24.8 | 3.20 | 113.3 | 1.9 |
| 19 | 6.51 | 49.8 | 1.70 | 24.6 | 3.77 | 113.9 | 1.4 |
| 20 | 4.45 | 15.0 | 1.64 | 23.6 | 5.30 | 112.2 | 1.4 |

J = 0.002881 ± 0.000035
Total Gas Age = 112.2 ± 1.3 Ma
Mean Age = 112.3 ± 0.7 Ma, MSWD = 0.83, n = 20

Isochron Age = 112.5 ± 3.0 Ma; $^{40}Ar/^{36}Ar_i$ = 296 ± 16, MSWD = 1.6

**JH-72 Biotite (Laser single-grain fusion analysis)**

| No. | $^{36}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-6}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|
| 1 | 1.47 | 2.84 | 1.39 | 26.8 | 1.83 | 113.1 | 1.5 |
| 2 | 2.07 | 3.68 | 1.55 | 28.7 | 1.38 | 113.4 | 1.7 |
| 3 | 1.88 | 1.71 | 1.60 | 27.4 | 1.46 | 110.1 | 1.5 |
| 4 | 2.80 | 3630 | 1.94 | 30.3 | 1.08 | 110.8 | 1.5 |
| 5 | 1.11 | 44100 | 1.44 | 25.2 | 2.27 | 110.2 | 1.3 |
| 6 | 1.25 | 1.21 | 1.51 | 26.3 | 2.11 | 113.8 | 1.5 |
| 7 | 2.14 | 2.88 | 1.69 | 28.9 | 1.35 | 113.5 | 1.9 |
| 8 | 1.84 | 4.23 | 1.38 | 28.5 | 1.55 | 116.1 | 2.0 |
| 9 | 0.82 | 14800 | 1.50 | 24.1 | 2.95 | 109.4 | 1.4 |
| 10 | 2.11 | 176000 | 1.35 | 28.8 | 1.37 | 113.5 | 3.7 |
| 11 | 1.16 | 1.66 | 1.43 | 25.3 | 2.17 | 109.9 | 1.5 |
| 12 | 1.47 | 30900 | 1.40 | 27.5 | 1.87 | 116.5 | 2.0 |
| 13 | 2.23 | 18900 | 1.95 | 28.0 | 1.26 | 108.0 | 1.4 |
| 14 | 1.03 | 51200 | 1.45 | 25.7 | 2.49 | 114.0 | 1.6 |
| 15 | 1.46 | 65200 | 7.50 | 25.8 | 1.77 | 108.3 | 1.4 |
| 16 | 0.467 | 1.06 | 1.41 | 22.9 | 4.90 | 108.2 | 1.3 |
| 17 | 1.26 | 1220 | 1.54 | 25.9 | 2.06 | 111.8 | 1.4 |
| 18 | 1.32 | 2.00 | 1.60 | 26.7 | 2.02 | 114.5 | 1.5 |
| 19 | 0.849 | 1.24 | 1.48 | 24.3 | 2.86 | 109.6 | 1.4 |
| 20 | 0.948 | 1.49 | 1.36 | 25.5 | 2.69 | 114.1 | 1.5 |

J = 0.002881 ± 0.000035
Total Gas Age = 111.0 ± 1.3 Ma
Mean Age = 111.4 ± 1.2 Ma, MSWD = 2.8, n = 20
Isochron Age = 109.8 ± 4.5 Ma; $^{40}Ar/^{36}Ar_i$ = 327 ± 46, MSWD = 4.4

**JH-67 K-feldspar (Laser step-heating analysis)**

| No. | cum. 39 | Time (s) | $^{36}Ar/^{39}Ar$ ($\times10^{-3}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-6}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.19 | 20 | 4.54 | 9730 | 1.27 | 23.2 | 5.10 | 109.9 | 1.4 |
| 2 | 0.24 | 20 | 3.89 | 48600 | 1.01 | 23.6 | 6.06 | 112.7 | 2.0 |
| 3 | 0.31 | 20 | 4.07 | 3.04 | 1.16 | 23.3 | 5.73 | 111.2 | 1.7 |
| 4 | 0.41 | 20 | 2.34 | 1.97 | 1.09 | 23.2 | 9.91 | 113.0 | 1.6 |
| 5 | 0.55 | 20 | 3.25 | 40000 | 1.23 | 23.1 | 7.09 | 111.2 | 1.4 |
| 6 | 0.63 | 20 | 3.91 | 24800 | 1.19 | 23.6 | 6.03 | 112.8 | 1.5 |
| 7 | 0.70 | 20 | 3.19 | 3410 | 1.10 | 23.1 | 7.25 | 111.6 | 1.5 |
| 8 | 0.76 | 20 | 4.25 | 51400 | 1.20 | 23.5 | 5.52 | 111.7 | 1.7 |
| 9 | 0.82 | 20 | 5.26 | 51700 | 1.22 | 24.2 | 4.60 | 113.8 | 1.7 |
| 10 | 0.92 | 20 | 6.31 | 21100 | 1.29 | 23.9 | 3.79 | 110.9 | 1.4 |
| 11 | 0.96 | 20 | 7.01 | 5.48 | 1.12 | 24.9 | 3.56 | 115.0 | 1.8 |
| 12 | 0.97 | 20 | 6.85 | 11.1 | 1.21 | 25.4 | 3.71 | 117.5 | 2.3 |
| 13 | 1.00 | 20 | 7.84 | 7.29 | 1.35 | 25.1 | 3.20 | 114.5 | 2.4 |

J = 0.002881 ± 0.000035
Integrated Age = 111.9 ± 1.3 Ma
Plateau Age = 112.0 ± 1.2 Ma ($^{39}Ar_K$ = 95.5% from step 1 to 11), MSWD = 0.82
Isochron Age = 109.7 ± 5.2 Ma; $^{40}Ar/^{36}Ar_i$ = 417 ± 170, MSWD = 1.6

**JH-70 K-feldspar (Laser step-heating analysis)**

| No. | cum. 39 | Time (s) | $^{36}Ar/^{39}Ar$ | $^{37}Ar/^{39}Ar$ | $^{38}Ar/^{39}Ar$ | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | ($\times10^{-2}$) | ($\times10^{-6}$) | ($\times10^{-2}$) | | ($\times10^{3}$) | | |
| 1 | 0.00 | 20 | 202 | 97.2 | 40.4 | 769 | 0.381 | 727.5 | 47.3 |
| 2 | 0.05 | 20 | 7.79 | 2.13 | 3.13 | 54.0 | 0.693 | 153.9 | 2.3 |
| 3 | 0.07 | 20 | 2.67 | 4.38 | 1.41 | 30.5 | 1.14 | 113.8 | 1.8 |
| 4 | 0.14 | 20 | 1.71 | 1.39 | 1.62 | 28.1 | 1.65 | 115.8 | 1.6 |
| 5 | 0.16 | 20 | 1.21 | 5.29 | 1.08 | 25.8 | 2.13 | 111.7 | 2.5 |
| 6 | 0.28 | 20 | 1.86 | 0.864 | 1.73 | 28.0 | 1.51 | 113.3 | 1.5 |
| 7 | 0.41 | 20 | 1.53 | 14700 | 1.63 | 26.9 | 1.76 | 112.8 | 1.5 |
| 8 | 0.50 | 20 | 1.20 | 104000 | 1.47 | 26.0 | 2.17 | 112.9 | 1.5 |
| 9 | 0.63 | 20 | 1.39 | 9610 | 1.60 | 27.0 | 1.94 | 115.0 | 1.5 |
| 10 | 0.76 | 20 | 1.82 | 19700 | 1.70 | 28.1 | 1.55 | 114.3 | 1.5 |
| 11 | 0.81 | 20 | 0.874 | 6500 | 1.34 | 26.0 | 2.97 | 117.4 | 1.8 |
| 12 | 0.90 | 20 | 1.47 | 18800 | 1.60 | 28.3 | 1.93 | 120.4 | 1.5 |
| 13 | 0.92 | 20 | 1.12 | 48700 | 1.29 | 27.1 | 2.41 | 119.3 | 2.5 |
| 14 | 0.95 | 20 | 0.754 | 7890 | 1.32 | 25.8 | 3.42 | 118.3 | 1.9 |
| 15 | 1.00 | 20 | 0.906 | 45100 | 1.42 | 25.8 | 2.84 | 116.0 | 1.5 |

J = 0.002881 ± 0.000035
Integrated Age = 117.6 ± 1.4 Ma
Plateau Age = 114.2 ± 1.3 Ma ($^{39}Ar_K$ = 76.1% from step 2 to 10), MSWD = 0.93
Isochron Age = 114.7 ± 6.0 Ma; $^{40}Ar/^{36}Ar_i$ = 289 ± 66, MSWD = 2.1

**JH-74 K-feldspar (Laser step-heating analysis)**

| No. | cum. 39 | $^{36}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{37}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{38}Ar/^{39}Ar$ ($\times10^{-2}$) | $^{40}Ar/^{39}Ar$ | $^{40}Ar/^{36}Ar$ ($\times10^{3}$) | Age (Ma) | 1 σ |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.19 | 0.672 | 5.51 | 1.36 | 23.4 | 3.48 | 107.9 | 1.4 |
| 2 | 0.24 | 4.67 | 6.42 | 1.73 | 34.8 | 0.746 | 105.9 | 2.0 |
| 3 | 0.33 | 6.55 | 5.36 | 2.42 | 40.2 | 0.613 | 105.0 | 2.0 |
| 4 | 0.38 | 8.13 | 2.69 | 2.52 | 44.7 | 0.550 | 104.3 | 2.6 |
| 5 | 0.48 | 10.4 | 7.96 | 3.14 | 51.4 | 0.494 | 104.0 | 1.6 |
| 6 | 0.53 | 11.4 | 3.04 | 3.07 | 55.8 | 0.490 | 111.3 | 2.5 |
| 7 | 0.61 | 3.89 | 9.48 | 1.75 | 33.3 | 0.856 | 109.7 | 3.0 |
| 8 | 0.71 | 4.14 | 13.0 | 1.97 | 34.9 | 0.843 | 114.0 | 2.0 |
| 9 | 0.76 | 3.59 | 6.97 | 1.65 | 33.1 | 0.921 | 113.0 | 2.3 |
| 10 | 0.94 | 1.50 | 14.3 | 1.57 | 26.6 | 1.78 | 111.7 | 1.5 |
| 11 | 0.98 | 1.49 | 6.58 | 1.25 | 26.7 | 1.79 | 112.2 | 3.2 |
| 12 | 1.00 | 1.49 | 25.7 | 1.35 | 27.3 | 1.83 | 115.3 | 3.8 |

J = 0.002881 ± 0.000035
Integrated Age = 109.2 ± 1.4 Ma
Plateau Age = 106.5 ± 1.3 Ma ($^{39}Ar_K$ = 60.6%; 1 to 7 steps)
Isochron Age = 108.2 ± 4.4 Ma; $^{40}Ar/^{36}Ar_i$ = 292 ± 14, MSWD = 2.0

Note:

J-value: Weighted mean of three fusions of irradiation standard LP-6 Biotite having a calibrated $^{40}Ar/^{39}Ar$ age of 128.4 ± 0.2 Ma, based on Fish Canyon Sanidine (28.02±0.28Ma) (Renne et al., 1998).

The quoted error is one standard deviation.