Appendix C. $^{40}Ar/^{39}Ar$ geochronology

$^{40}Ar/^{39}Ar$ Analytical techniques for Mammoth Mountain samples

Grey, crystalline portions of lava flow interiors and feldspars from silicic domes were separated for dating. Lava flow samples were crushed, ultrasonicated and sized to 250-350μm. Dense, clean groundmass was concentrated using a Frantz magnetic separator and careful handpicking under a binocular microscope. Feldspars were separated from domes by crushing, ultrasonicating and sizing samples to 1000-1500μm. Adhered glass was removed with light HF treatment followed by repeat washes in deionized water. Sanidine/anorthoclase were separated from plagioclase using heavy liquids. For irradiation, 60-200 mg aliquants were packaged in Cu foil and placed in a cylindrical quartz vial, together with fluence monitors of known age. The quartz vials were wrapped in 0.5 mm-thick Cd foil to shield samples from thermal neutrons during irradiation. The samples were irradiated for one hour in the central thimble of the U.S. Geological Survey TRIGA reactor in Denver, Colorado (Dalrymple et al., 1981) in multiple irradiations between 2010 and 2013. The reactor vessel was rotated continuously during irradiation to avoid lateral neutron flux gradients. Reactor constants determined on coirradiated K-glass and flourite for these irradiations were indistinguishable from recent irradiations, and a weighted mean of constants obtained over the past five years yields $^{40}Ar/^{39}Ar_K$ = 0.00010±0.00038, $^{39}Ar/^{37}Ar_{Ca}$ = 0.00071±0.00005, and $^{36}Ar/^{37}Ar_{Ca}$ = 0.000281±0.000006. 098-10B (Bodie Hills sanidine) was used as a fluence monitor with an age of 9.6345 Ma. This monitor is a secondary standard calibrated against the primary intralaboratory standard, SB-3, that has a K-Ar age measured from first principles of 162.9 ± 0.9 Ma (Lanphere and Dalrymple, 2000). The Bodie Hills sanidine age used is equivalent to the commonly used Fish Canyon sanidine age at 27.63 Ma when calibrated to SB-3. Fluence monitors were analyzed using a continuous CO_2 laser system and MAP 216 mass spectrometer described by Dalrymple (1989). Argon was extracted from groundmass and feldspar separates using a Mo crucible in a custom resistance furnace modified from the design of Staudacher et al. (1978) attached to the above mass spectrometer. Heating temperatures were monitored with an optical fiber thermometer and controlled with a PID controller using LabVIEW routines. Gas was purified continuously during extraction using two SAES ST-172 getters operated at 4A and 0A.

Mass spectrometer discrimination and system blanks are important factors in the precision and accuracy of $^{40}Ar/^{39}Ar$ age determinations of young lavas because of low radiogenic yields. The MAP instrument in Menlo Park has several advantages for analyzing young, large samples. Its Baur-Signer ion source was designed for optimal pressure linearity and lack of mass fractionation (Baur, 1980). The building housing the laboratory runs off uninterruptable conditioned power, contributing to instrument stability. Mass discrimination was remarkably stable during the three-year interval the vast majority of these samples were run, varying from D(1amu) = 1.00625±0.00011 to 1.0058±0.00018. Several samples were analyzed in 2013 when discrimination varied up to 1.00941±0.00022, but reanalyzed samples yielded indistinguishable results. Discrimination is monitored by analyzing splits of atmospheric Ar from a reservoir attached to the extraction line. Typical system blanks including mass spectrometer backgrounds were $1.5x10^{-18}$ mol of m/z 36, $9x10^{-17}$ mol of m/z 37, $3x10^{-18}$ mol of m/z 39 and $1.5x10^{-16}$ mol of m/z 40, where m/z is mass/charge ratio.

In the incremental-heating experiments, the extraction line is isolated from pumping systems and the sample is heated to a specified temperature for 10 minutes, then cooled for 3-8 minutes. The gas is exposed to getters during the entire extraction. Gas is expanded into the isolated mass spectrometer and isotopic ratios are measured and corrected for instrumental blanks, mass discrimination and interfering isotopes generated in the reactor. In these experiments we separated and loaded enough material to do 12-16 steps on each unknown in order to carefully characterize the argon release. The incremental heating data are plotted both as an age spectrum diagram and as an isotope correlation (isochron) diagram. For the age spectrum, apparent ages are calculated assuming that non-radiogenic Ar is atmospheric ($^{40}Ar/^{36}Ar$ = 295.5) in composition

and are plotted against the cumulative ^{39}Ar released during the experiment. In cases with several contiguous steps yielding ages within analytical error, we calculate and report plateau ages by weighing individual ages by the inverse of their analytical error. Most groundmass age experiments do not yield identical ages across the entire spectrum due to minor alteration, recoil of ^{39}Ar during irradiation or modest excess ^{40}Ar. Generally accepted criteria for a meaningful incremental heating age are: (1) well-defined plateau (horizontal age spectrum) for more than 50% of the ^{39}Ar released; (2) well-defined isochron for the plateau gas fractions; (3) concordant plateau and isochron ages; and (4) $^{40}Ar/^{36}Ar$ isochron intercept not significantly different from 295.5.

For isochron plots, data are not corrected using an atmospheric ratio. Isochron ages include plateau steps on well-behaved samples or a subset of data that yield an acceptable goodness of fit. We show normal isochron plots for these low-radiogenic rocks because the data are easier to visualize. Inverse isochron results are indistinguishable. The most reliable results generally include gas from the middle of the release spectrum with consistent K/Ca ratios and concordant isochron data with $^{40}Ar/^{36}Ar$ intercepts within error of air.

Target atoms recoil upon conversion from potassium or calcium to argon. Recoil distances have been measured at ~0.08 μm for ^{39}K to ^{39}Ar and are estimated to be longer for ^{40}Ca to ^{37}Ar. Groundmass concentrates from lavas often have fine textures and argon recoil significantly redistributes these isotopes and affects isotopic ratios. "Recoil Model Ages" are attempts to correct for recoil by weighting discordant apparent ages by their ^{39}Ar released and incorporating their dispersion (Fleck et al., in press).

Single grains of M-416 sanidine were fused using the CO_2 laser and measured similar to monitors described above.

Ages and isotopic ratios reported are 1σ.

Baur H., 1980 Numerische simulation und praktische erprobung einer rotationssymmetrischen ionenquelle für gasmassenspektrometer. Dissertation No. 6596, ETH, Zürich

Dalrymple, G.B., 1989, The GLM continuous laser system for $^{40}Ar/^{39}Ar$ dating; description and performance characteristics. U.S. Geol. Surv. Bull. 1890, 89-96.

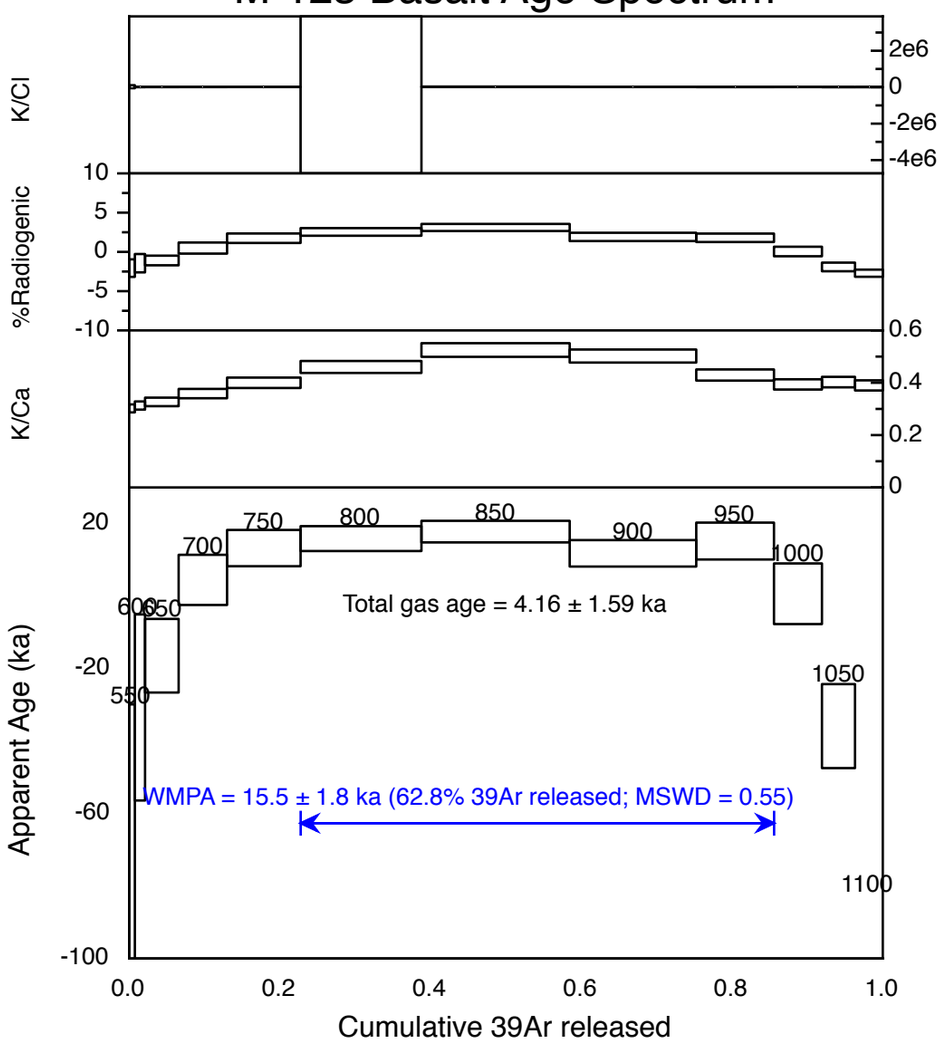
Dalrymple, G.B., Alexander, Jr., E.C., Lanphere, M.A., Kraker, G.P., 1981. Irradiation of samples for $^{40}Ar/^{39}Ar$ dating using the Geological Survey TRIGA reactor. U.S. Geol. Surv. Prof. Paper 1176, 55 pp.

Fleck, R.J., Hagstrum, J.T., Calvert, A.T. and Evarts, R.C., in press, $^{40}Ar/^{39}Ar$ Geochronology, Paleomagnetism, and Evolution of the Boring Volcanic Field, Oregon and Washington, USA, Geosphere.

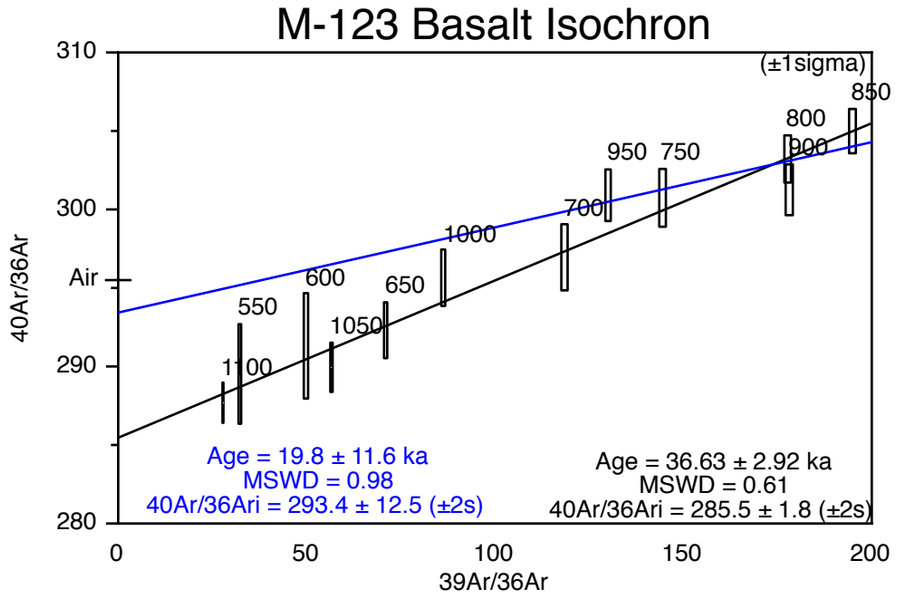
Lanphere, M.A., Dalrymple, G.B., 2000, First-principles calibration of ^{38}Ar tracers: Implications for the ages of $^{40}Ar/^{39}Ar$ fluence standards. U.S. Geol. Surv. Prof. Paper 1621, 10 pp.

Staudacher, T., Jessberger, E.K., Dorflinger, J., Kiko, J., 1978. A refined ultrahigh-vacuum furnace for rare gas analysis. J. Phys. E: Sci. Instru. 11, 781-784.

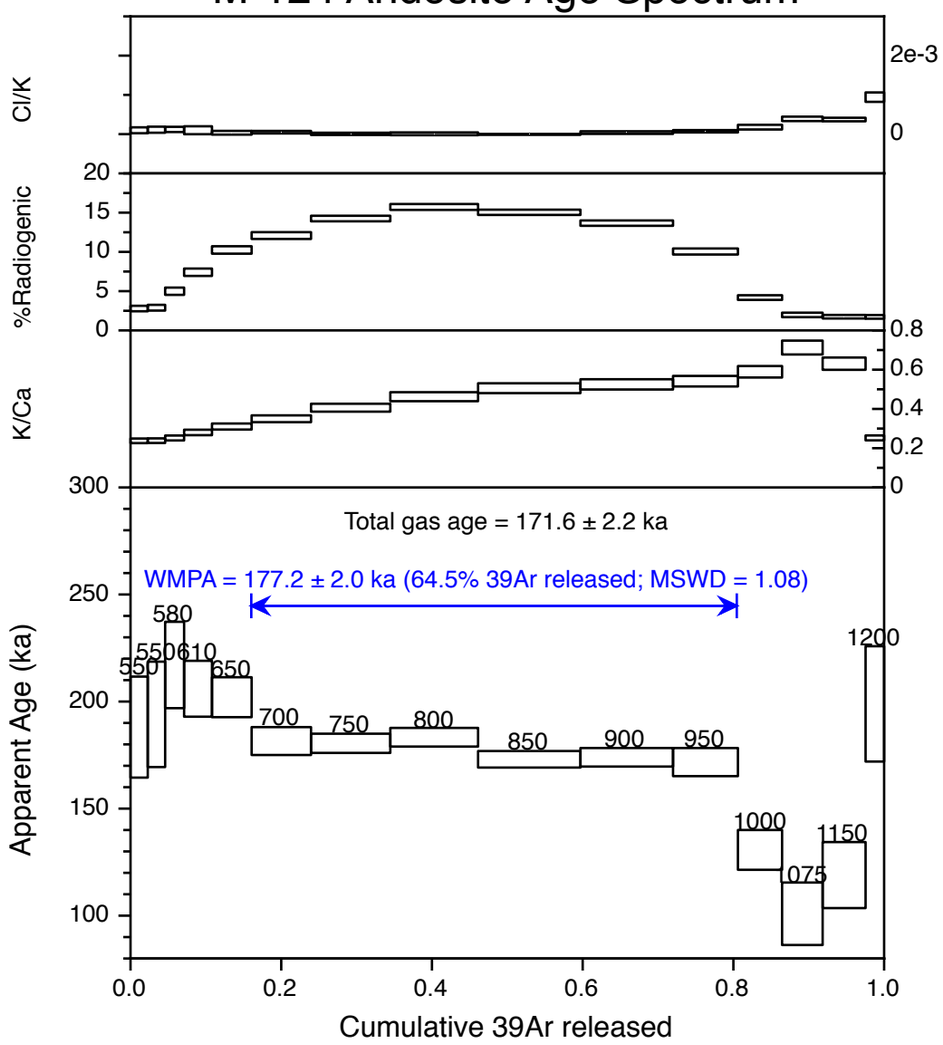
M-123 Basalt Age Spectrum



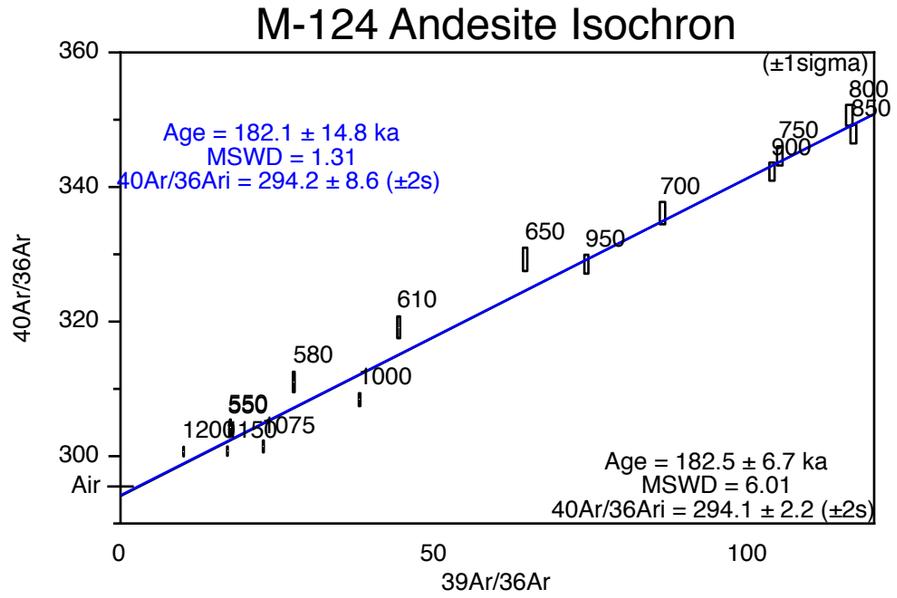
M-123 Basalt Isochron



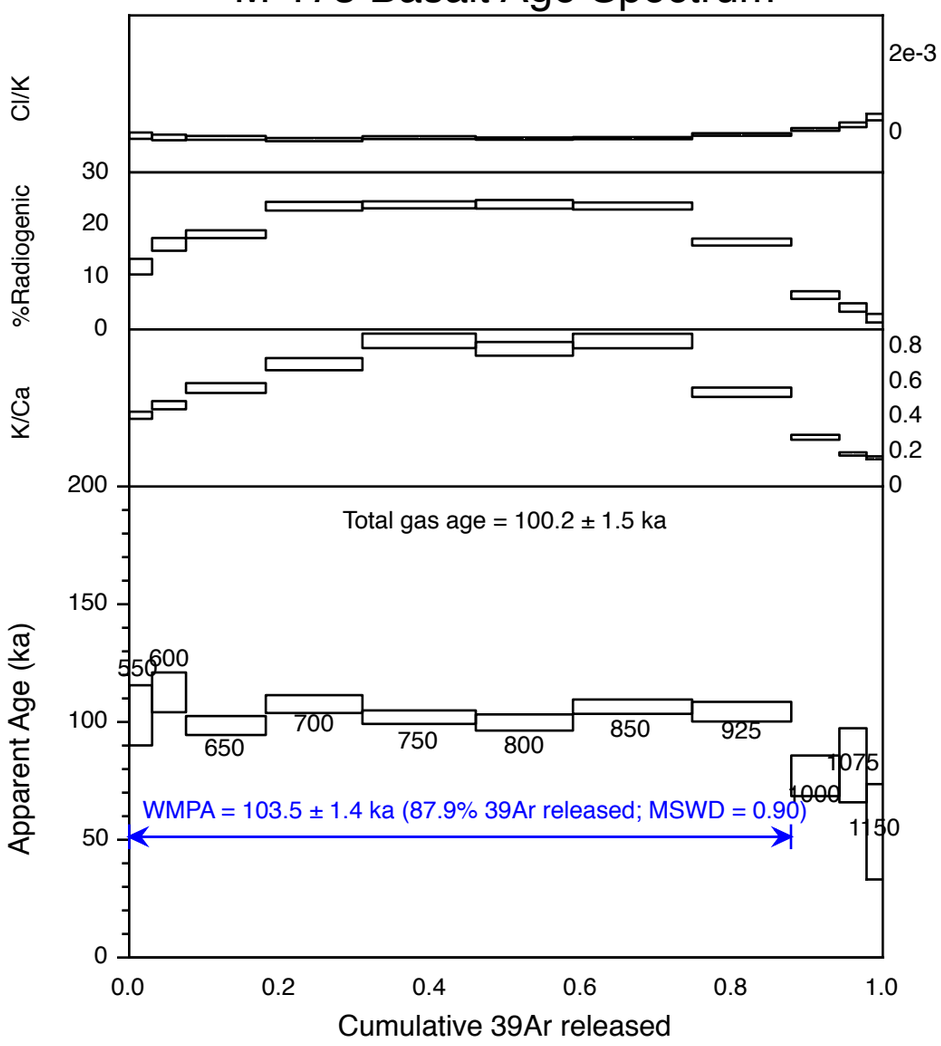
M-124 Andesite Age Spectrum



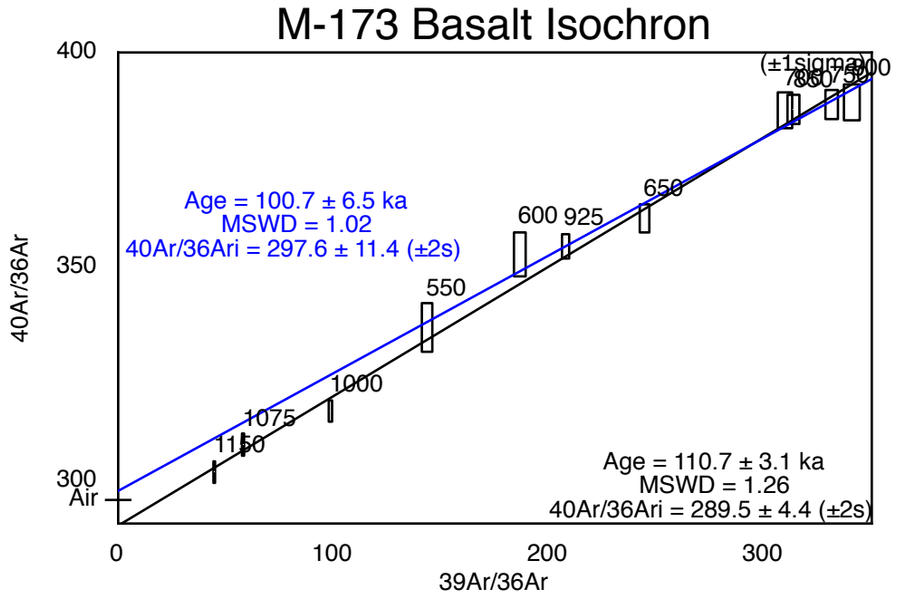
M-124 Andesite Isochron



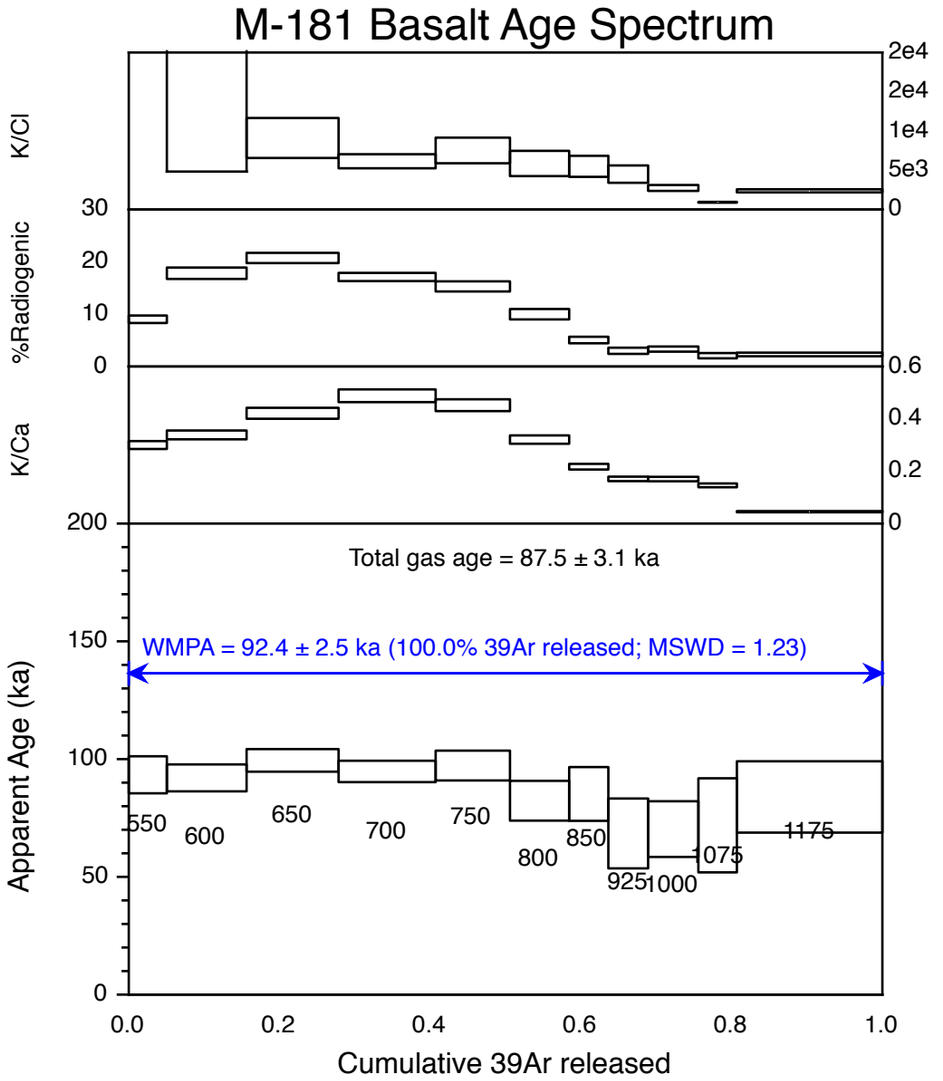
M-173 Basalt Age Spectrum



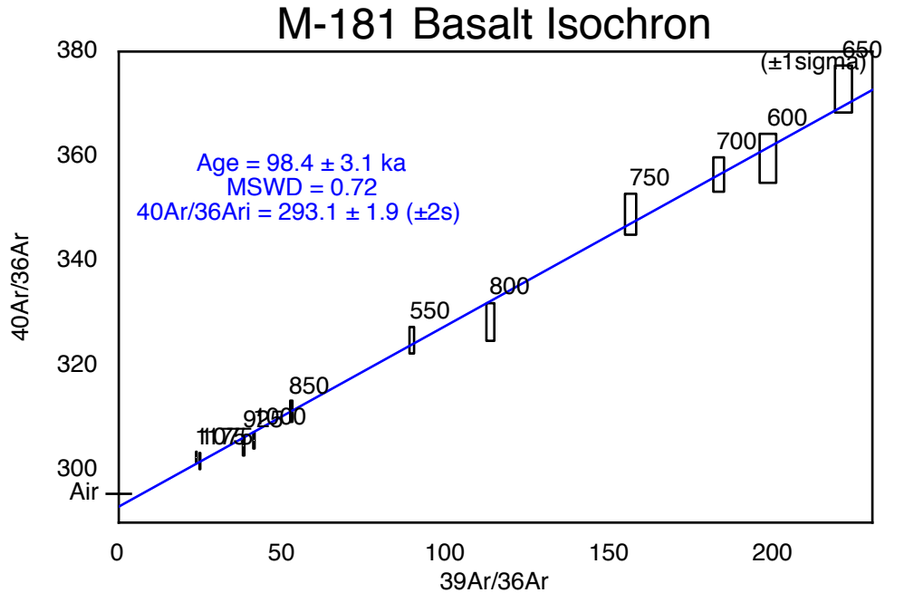
M-173 Basalt Isochron

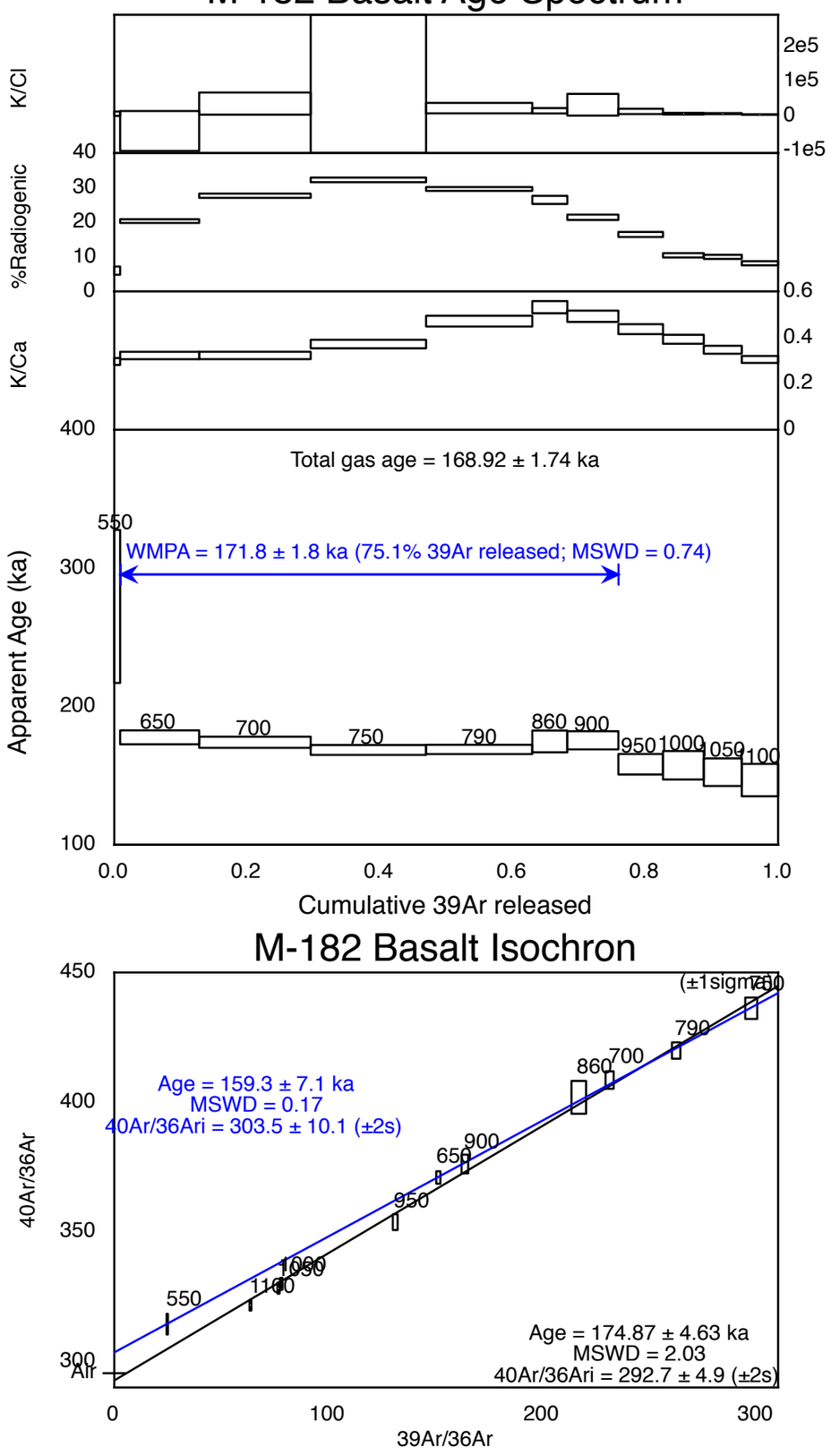


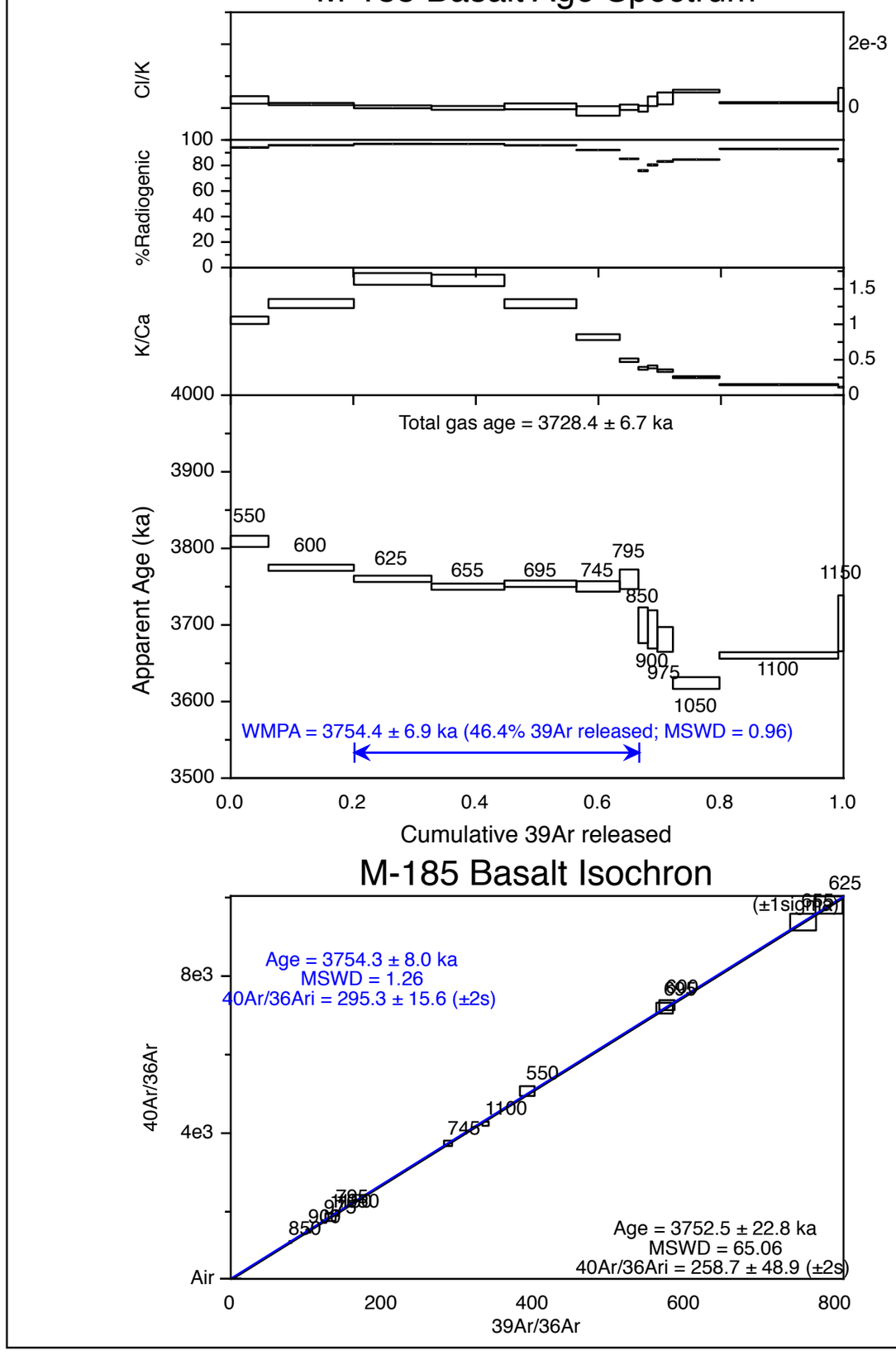
M-181 Basalt Age Spectrum

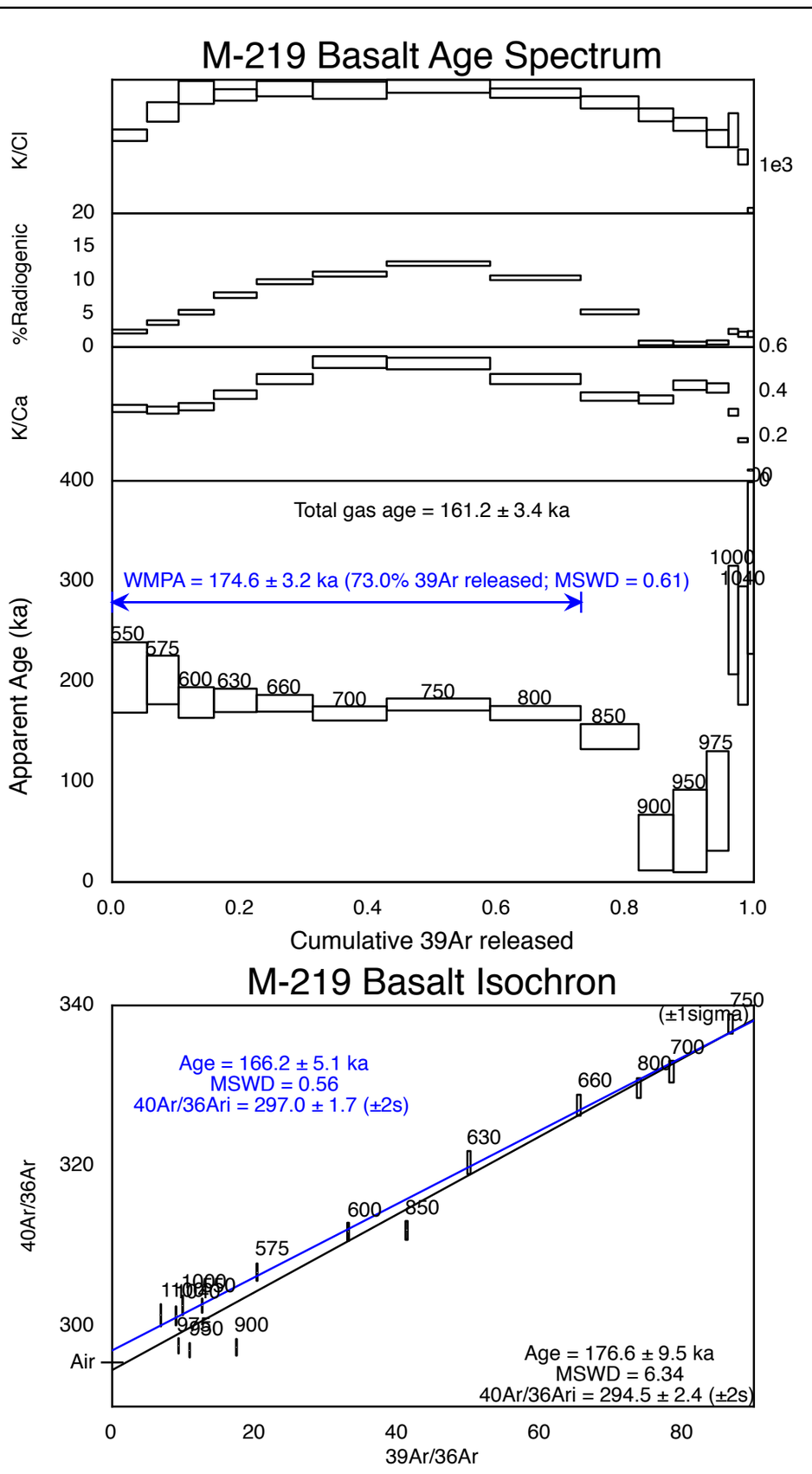


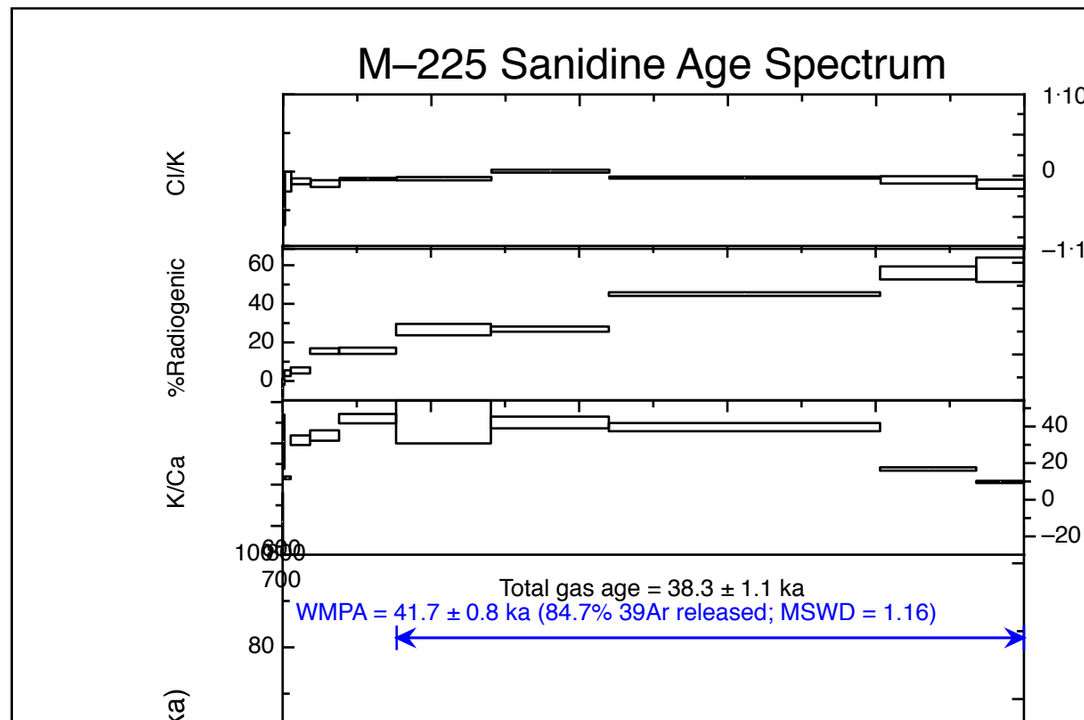
M-181 Basalt Isochron



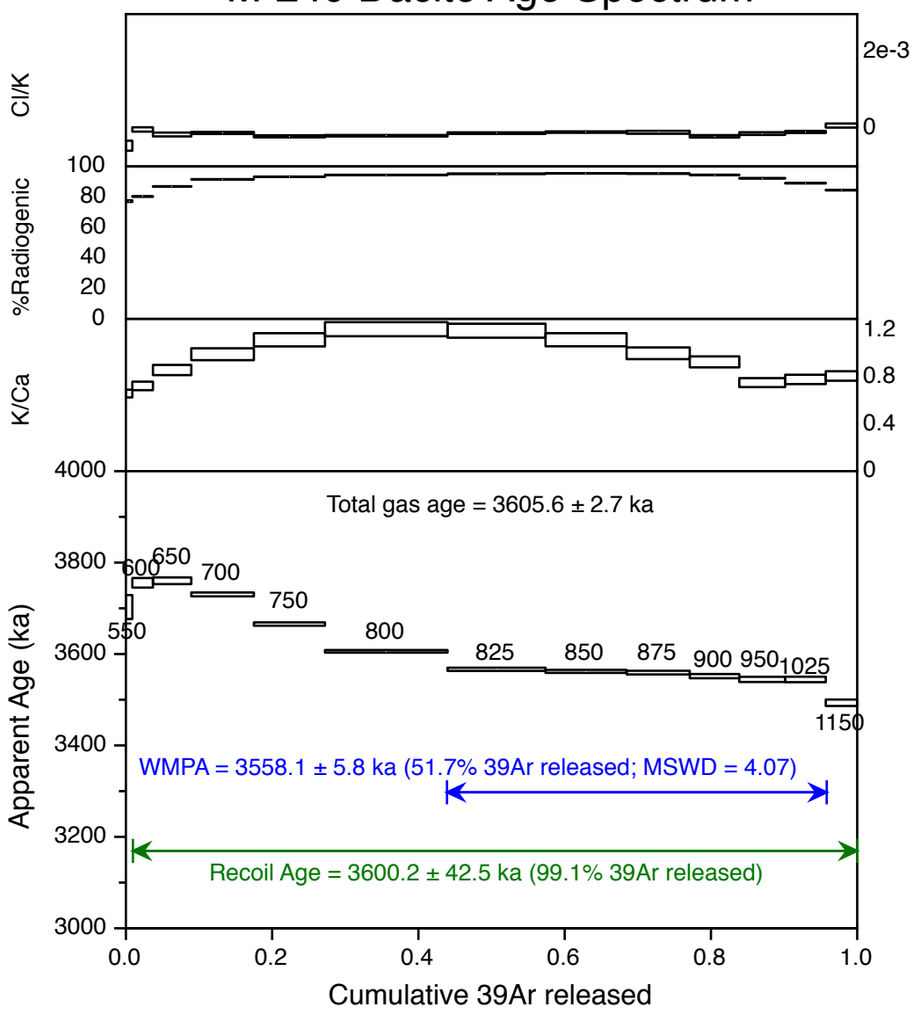

M-182 Basalt Age Spectrum
K/Cl
%Radiogenic
K/Ca
Total gas age = 168.92 ± 1.74 ka
Apparent Age (ka)
WMPA = 171.8 ± 1.8 ka (75.1% 39Ar released; MSWD = 0.74)
Cumulative 39Ar released
M-182 Basalt Isochron
(±1sigma)
Age = 159.3 ± 7.1 ka
MSWD = 0.17
40Ar/36Ari = 303.5 ± 10.1 (±2s)
Age = 174.87 ± 4.63 ka
MSWD = 2.03
40Ar/36Ari = 292.7 ± 4.9 (±2s)
40Ar/36Ar
39Ar/36Ar


M-185 Basalt Age Spectrum
Cl/K
%Radiogenic
K/Ca
Total gas age = 3728.4 ± 6.7 ka
Apparent Age (ka)
WMPA = 3754.4 ± 6.9 ka (46.4% 39Ar released; MSWD = 0.96)
Cumulative 39Ar released
M-185 Basalt Isochron
(±1sigma)
Age = 3754.3 ± 8.0 ka
MSWD = 1.26
40Ar/36Ari = 295.3 ± 15.6 (±2s)
Age = 3752.5 ± 22.8 ka
MSWD = 65.06
40Ar/36Ari = 258.7 ± 48.9 (±2s)
40Ar/36Ar
39Ar/36Ar

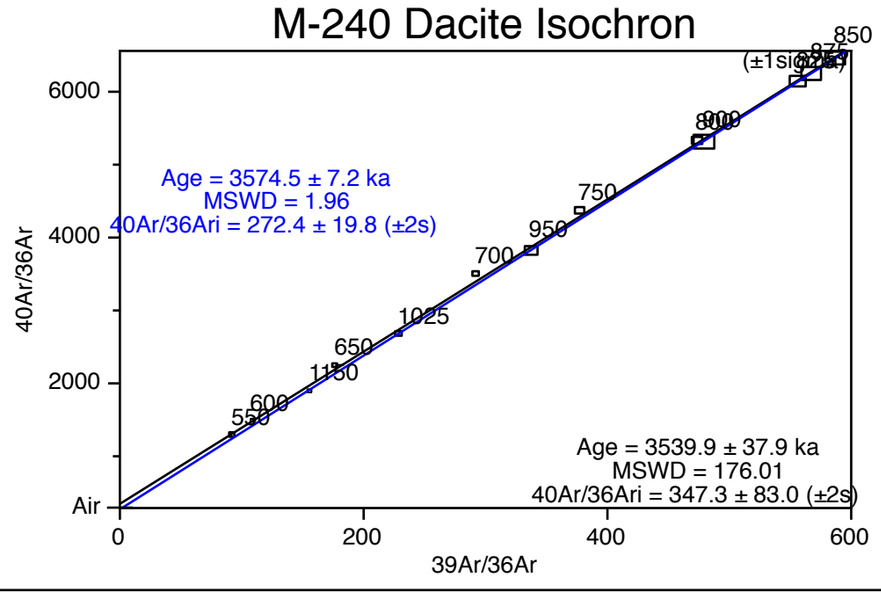

M-219 Basalt Age Spectrum
K/Cl
%Radiogenic
K/Ca
Total gas age = 161.2 ± 3.4 ka
Apparent Age (ka)
WMPA = 174.6 ± 3.2 ka (73.0% 39Ar released; MSWD = 0.61)
Cumulative 39Ar released
M-219 Basalt Isochron
(±1sigma)
Age = 166.2 ± 5.1 ka
MSWD = 0.56
40Ar/36Ari = 297.0 ± 1.7 (±2s)
Age = 176.6 ± 9.5 ka
MSWD = 6.34
40Ar/36Ari = 294.5 ± 2.4 (±2s)
40Ar/36Ar
39Ar/36Ar


M–225 Sanidine Age Spectrum
Cl/K
%Radiogenic
K/Ca
Total gas age = 38.3 ± 1.1 ka
Apparent Age (ka)
WMPA = 41.7 ± 0.8 ka (84.7% 39Ar released; MSWD = 1.16)
Cumulative 39Ar released
M–225 Sanidine Isochron
(±1sigma)
Age = 43.8 ± 2.0 ka
MSWD = 1.03
40Ar/36Ari = 284.2 ± 21.3 (±2s)
Age = 42.5 ± 1.5 ka
MSWD = 2.50
40Ar/36Ari = 288.3 ± 9.1 (±2s)
40Ar/36Ar
39Ar/36Ar

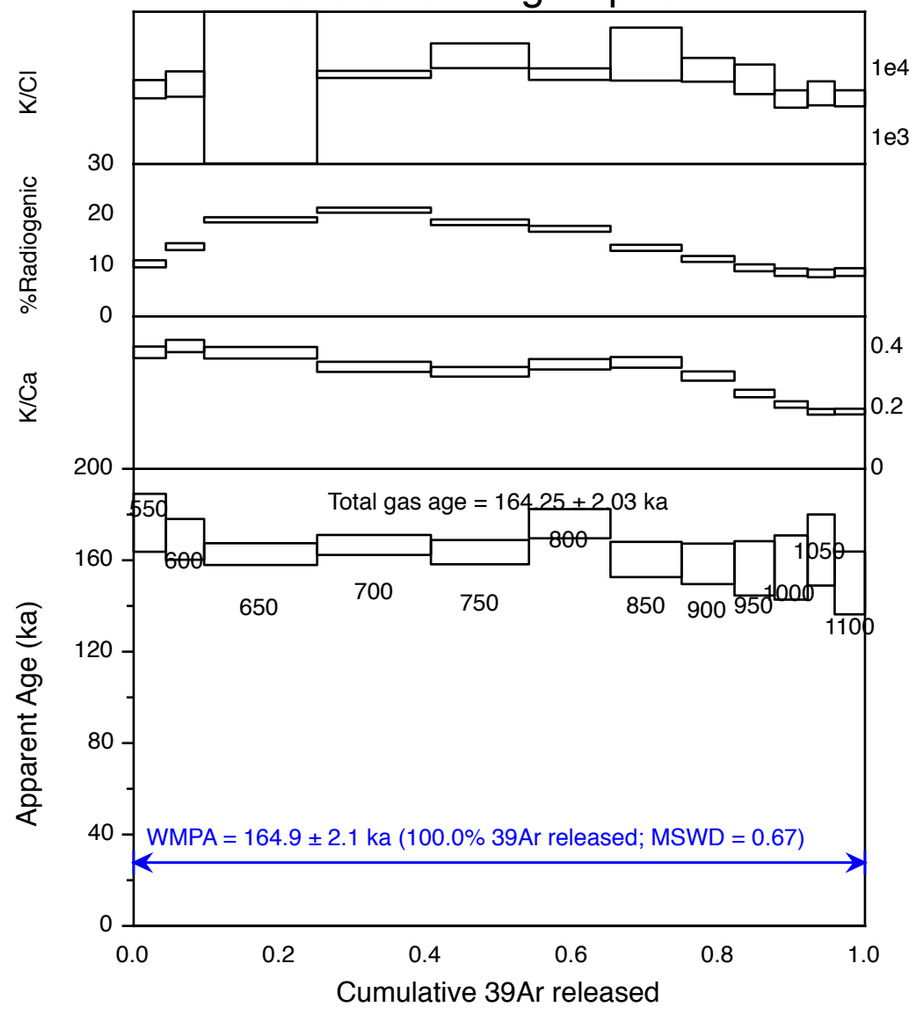
M-240 Dacite Age Spectrum



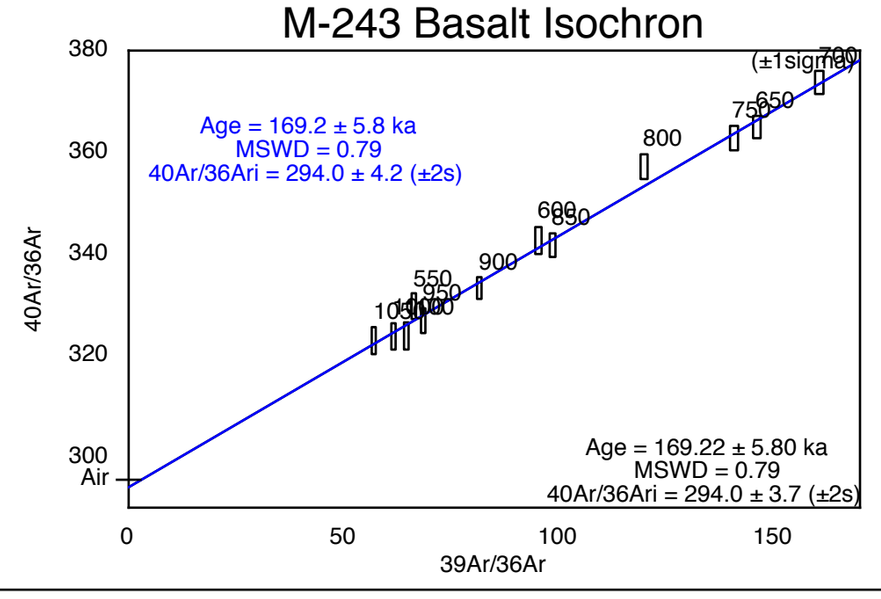
M-240 Dacite Isochron



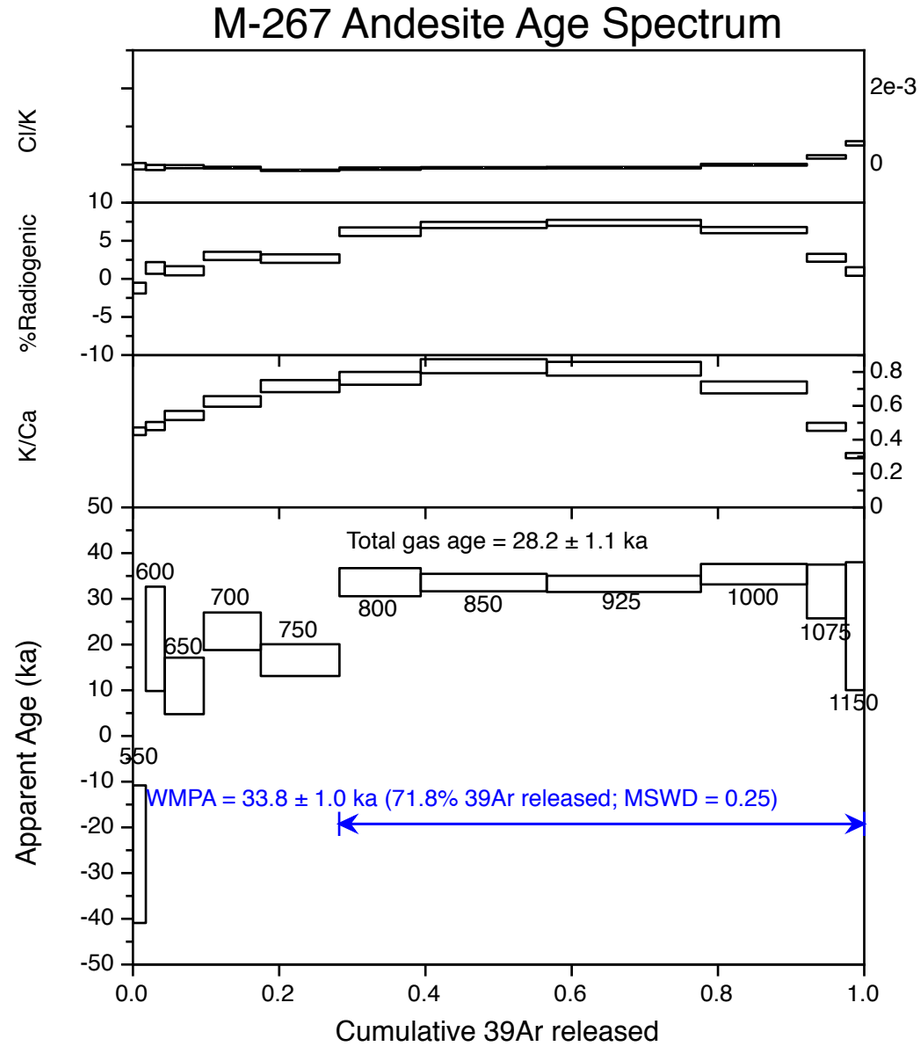
M-243 Basalt Age Spectrum



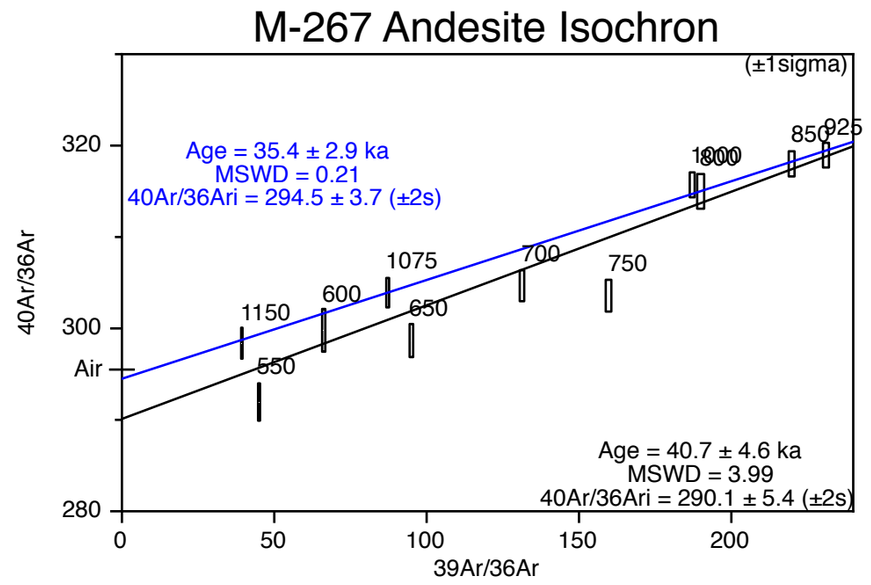
M-243 Basalt Isochron



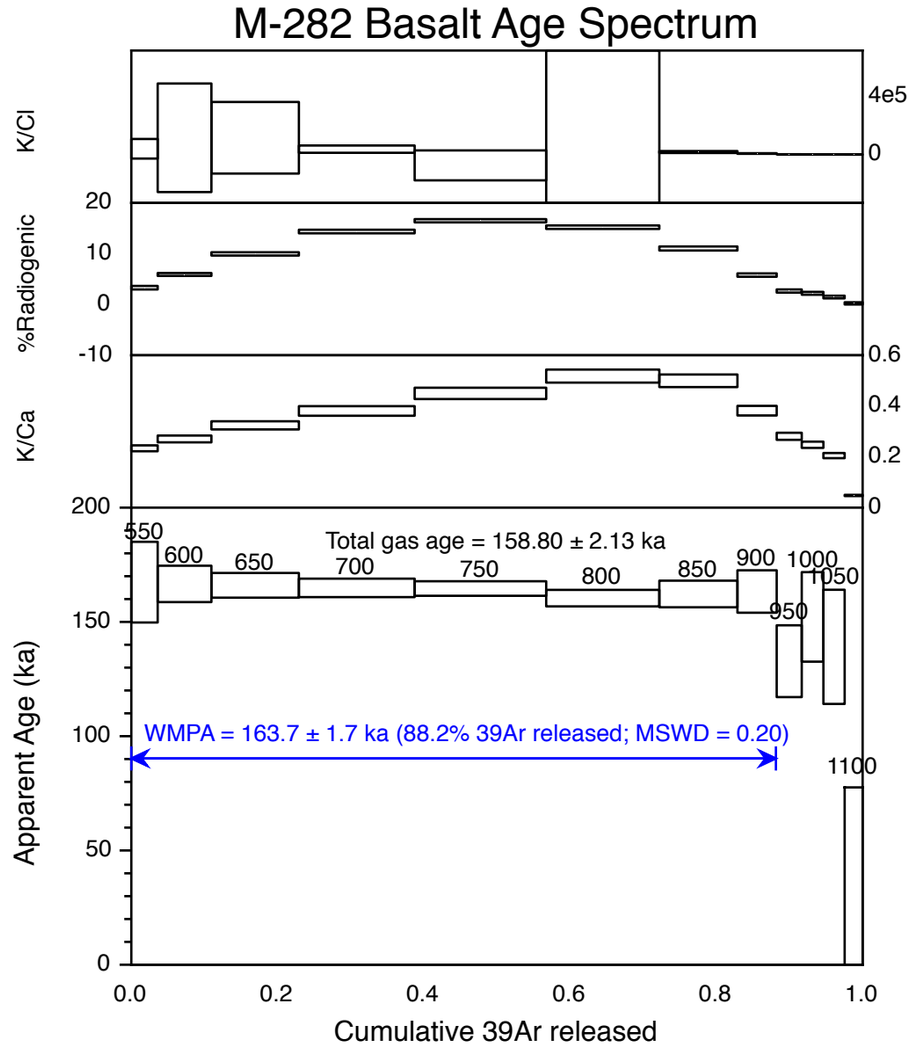
M-267 Andesite Age Spectrum



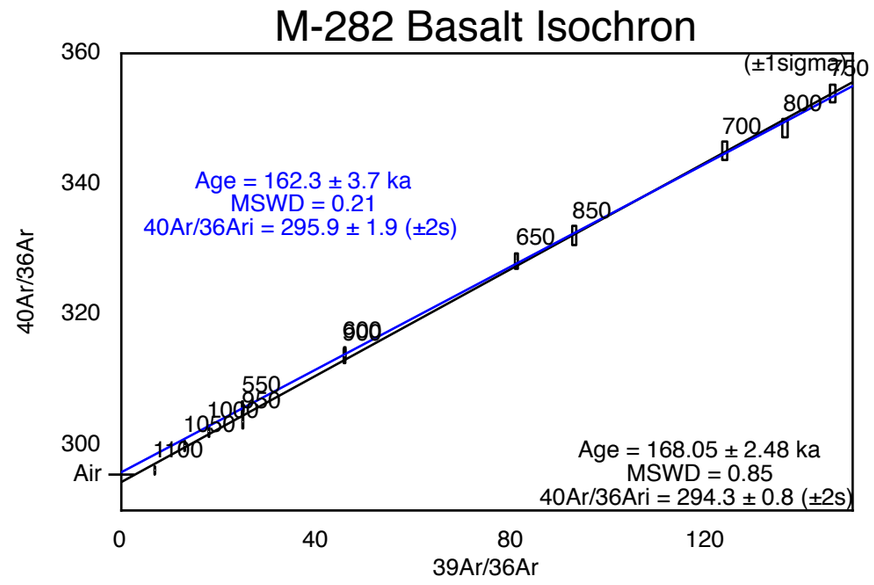
M-267 Andesite Isochron



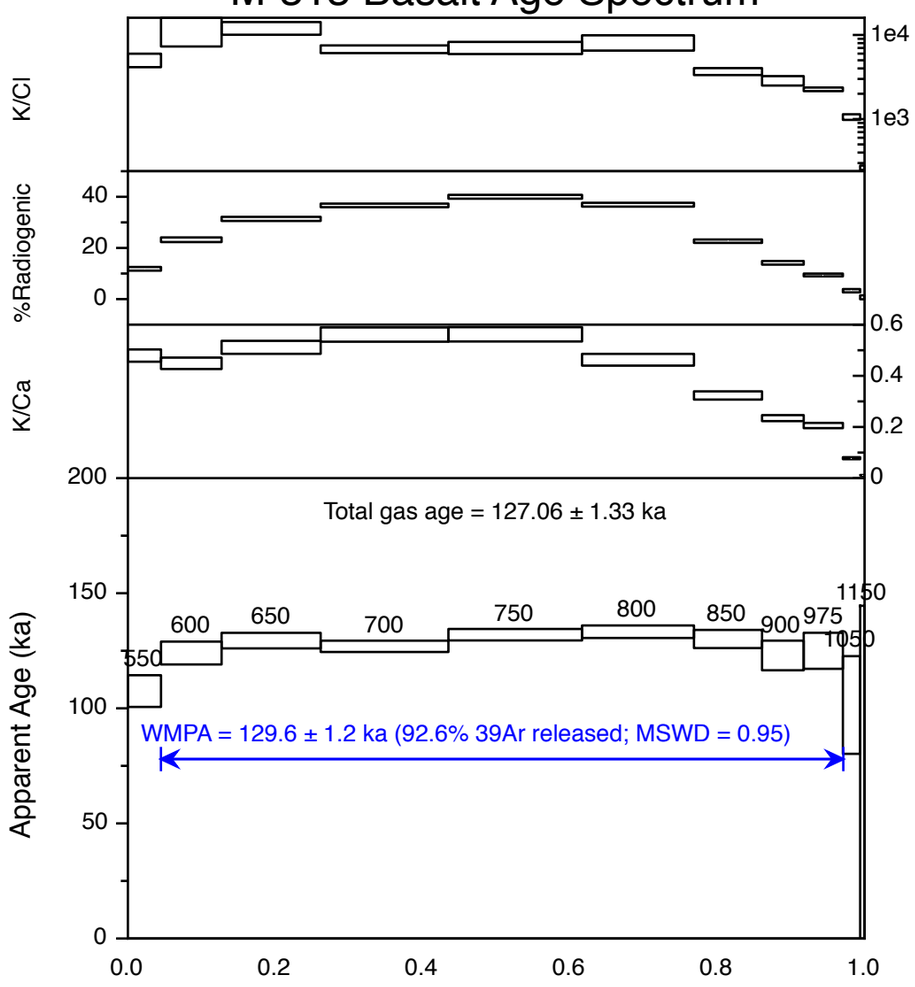
M-282 Basalt Age Spectrum



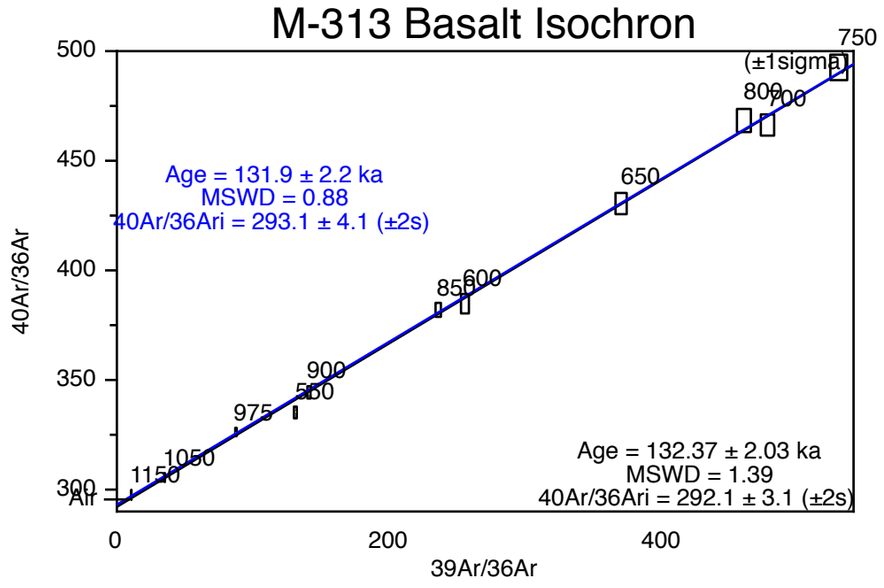
M-282 Basalt Isochron



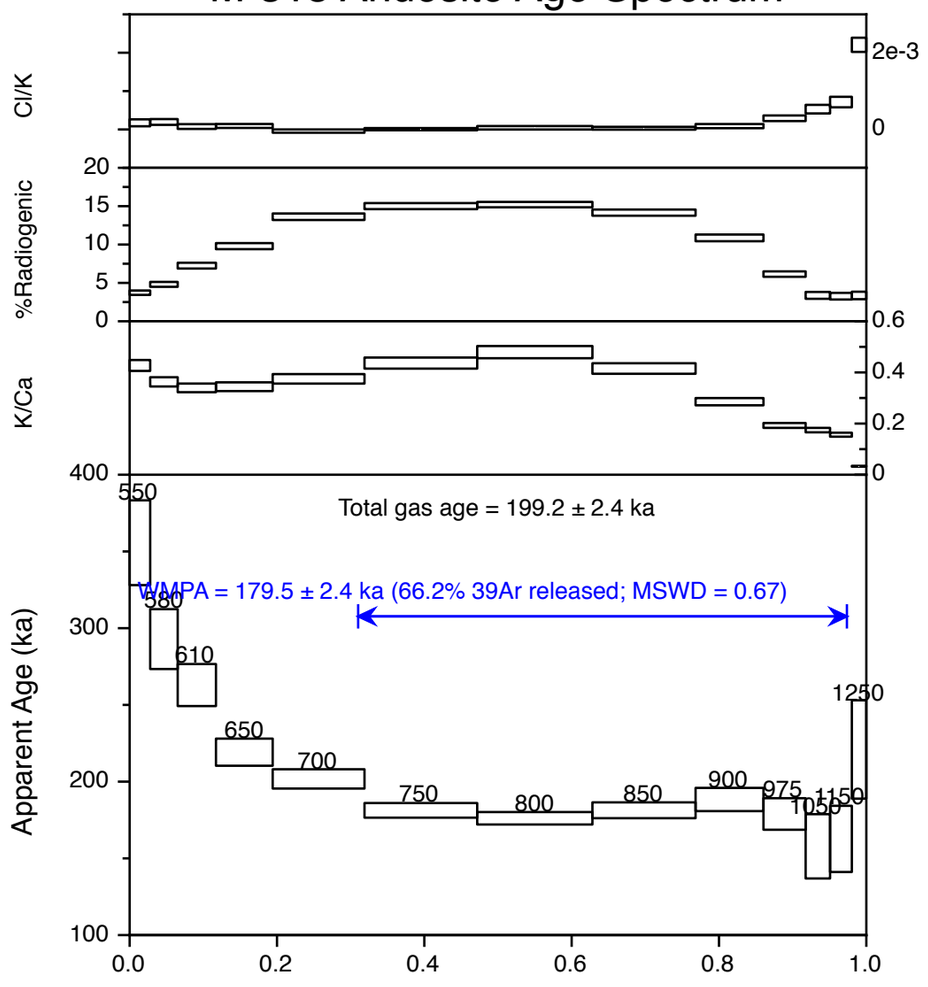
M-313 Basalt Age Spectrum



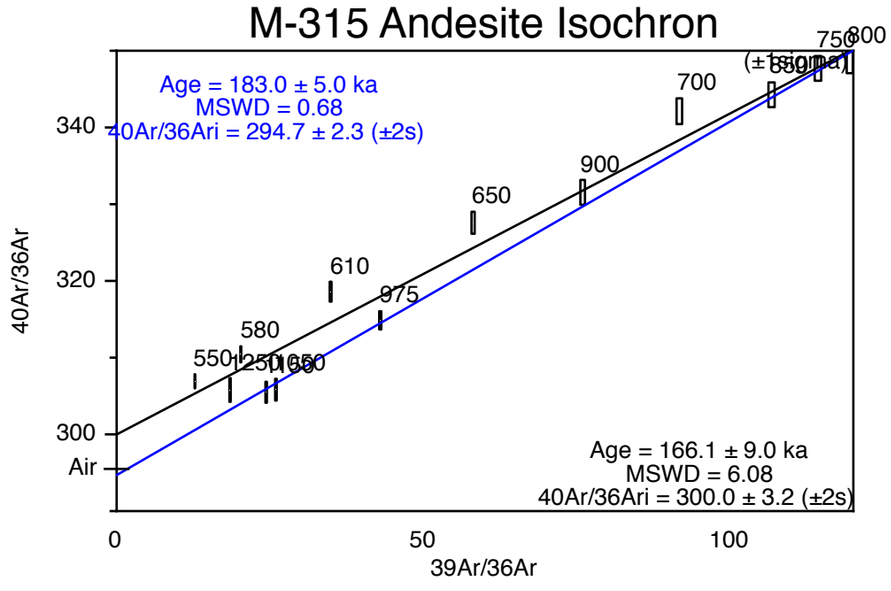
M-313 Basalt Isochron



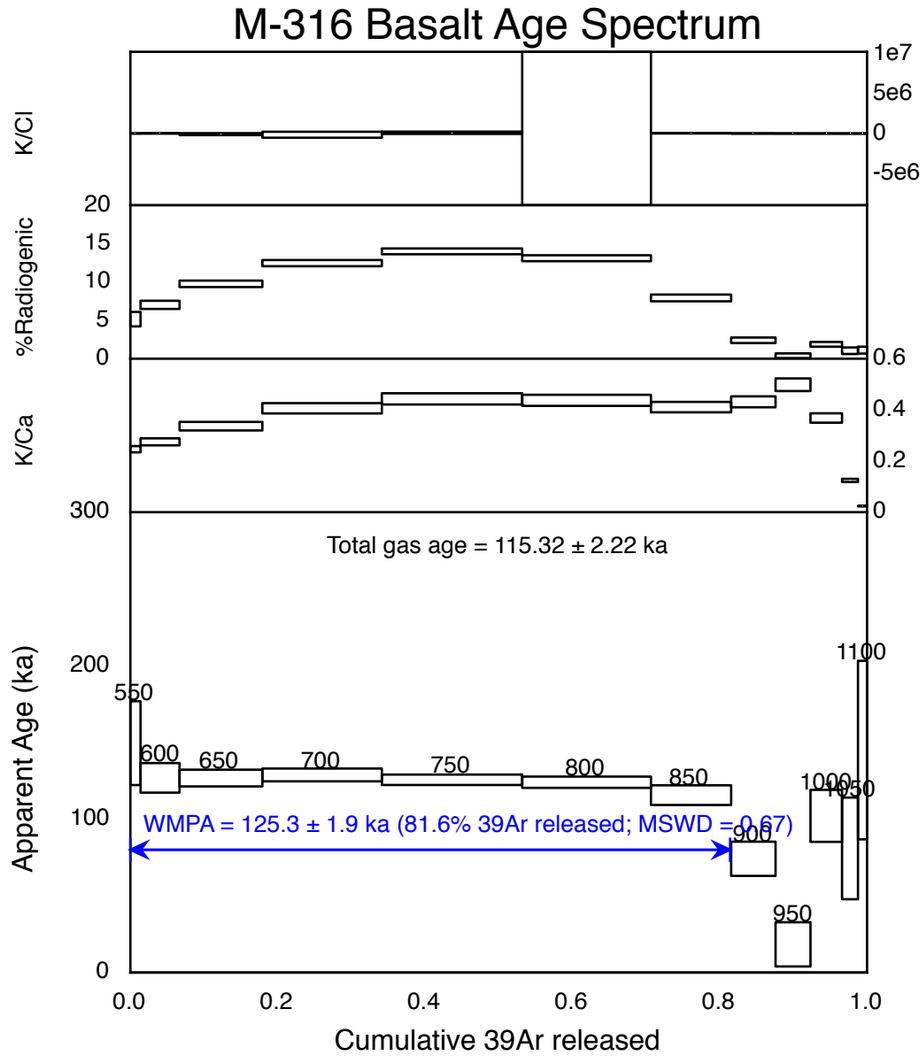
M-315 Andesite Age Spectrum



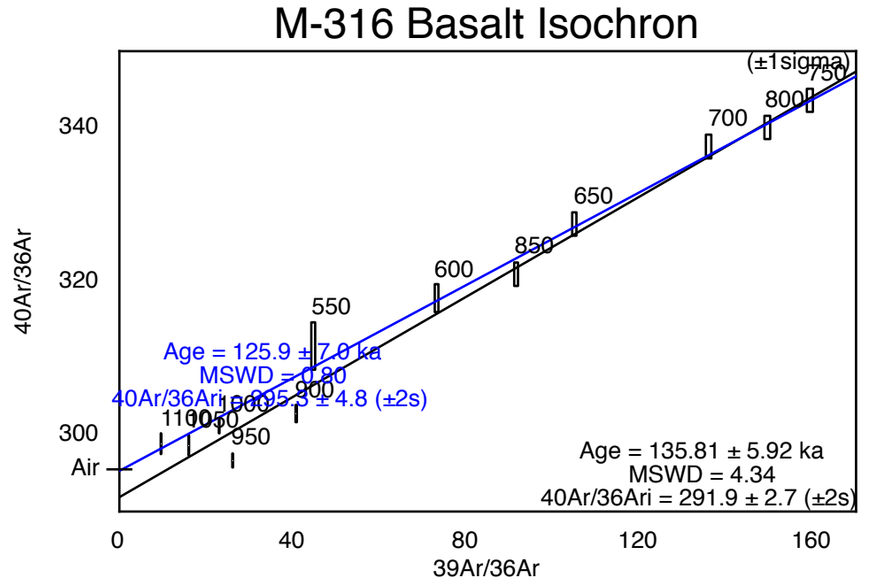
M-315 Andesite Isochron



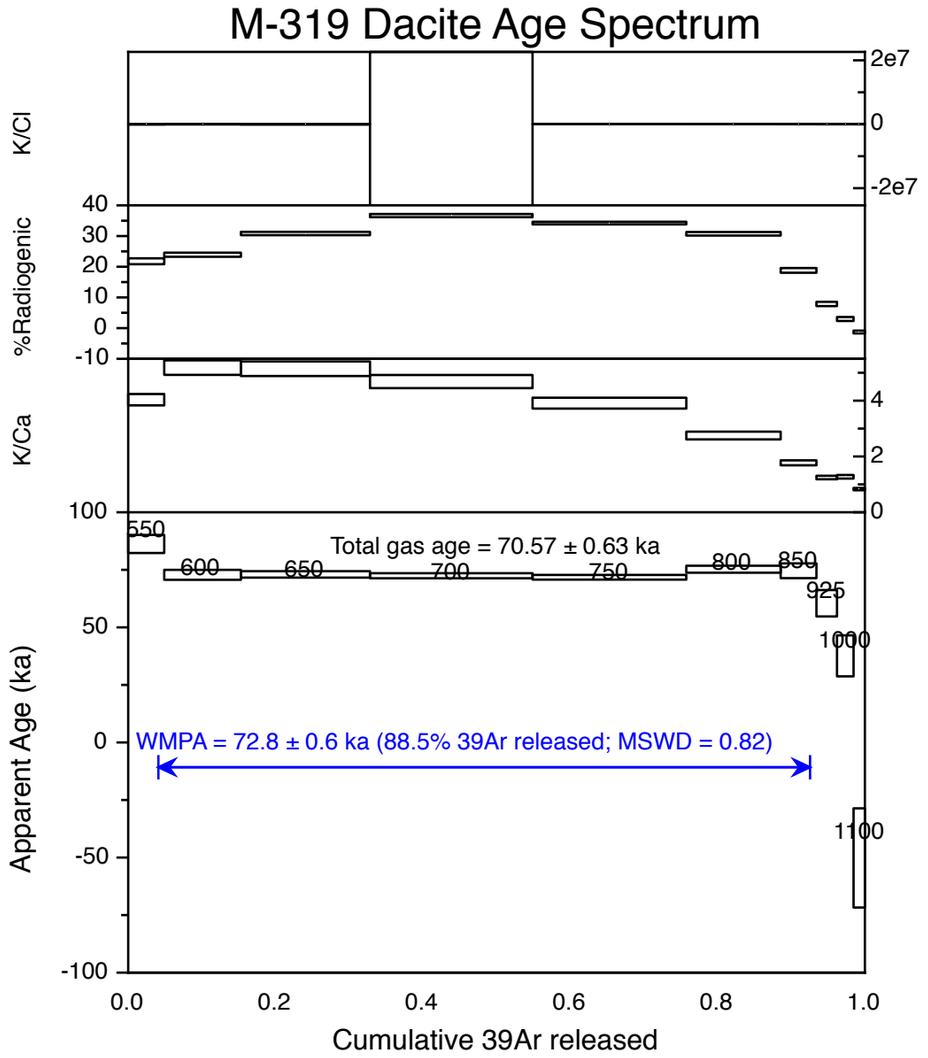
M-316 Basalt Age Spectrum



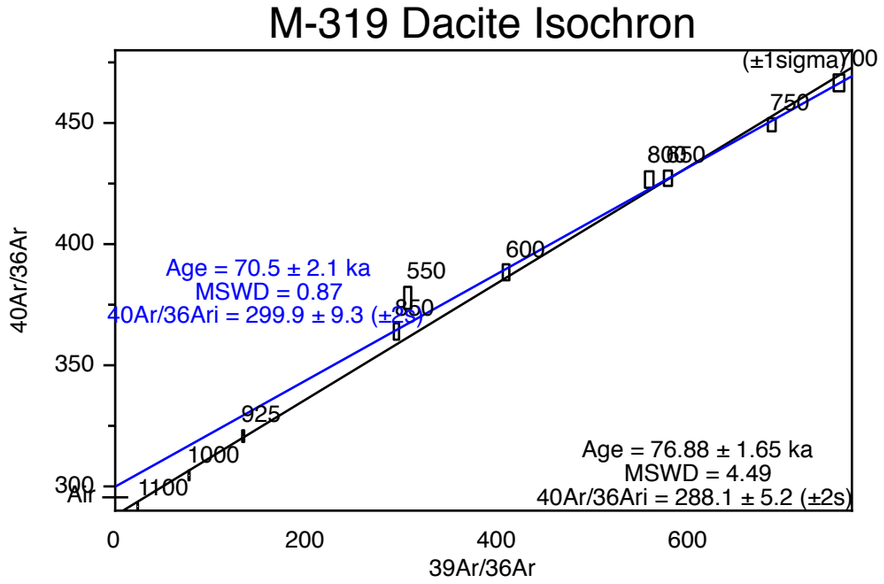
M-316 Basalt Isochron

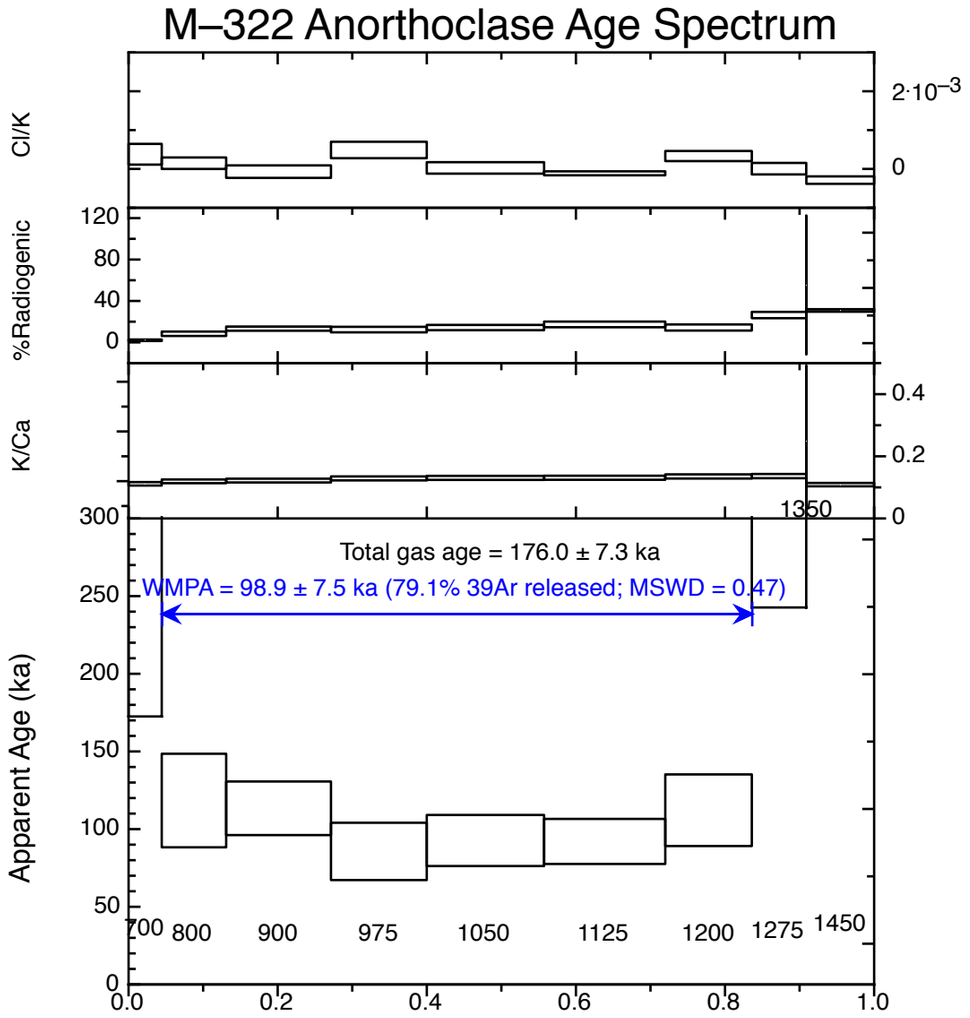


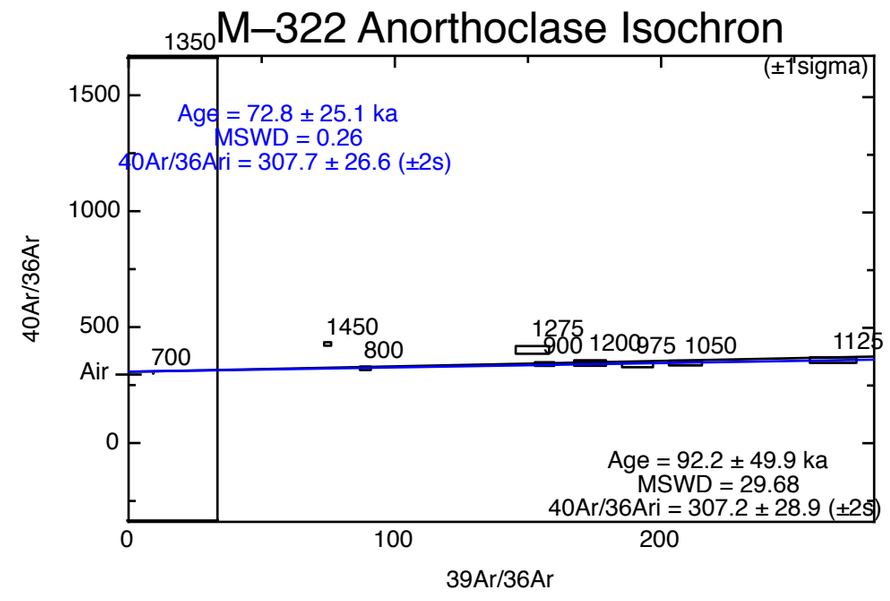
M-319 Dacite Age Spectrum

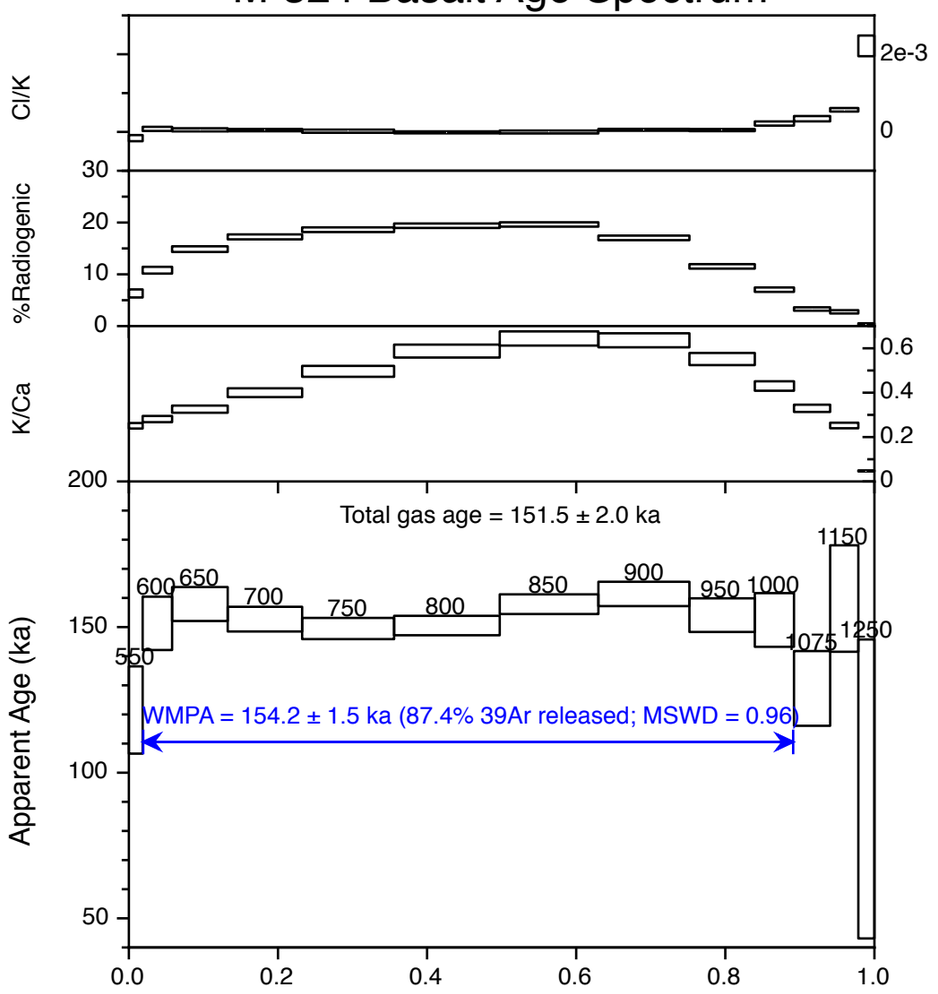


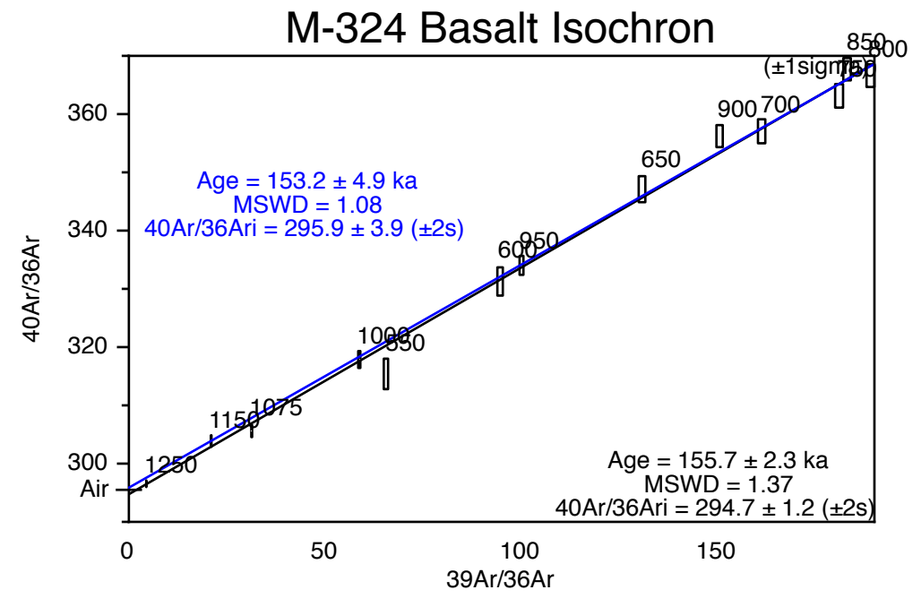
M-319 Dacite Isochron

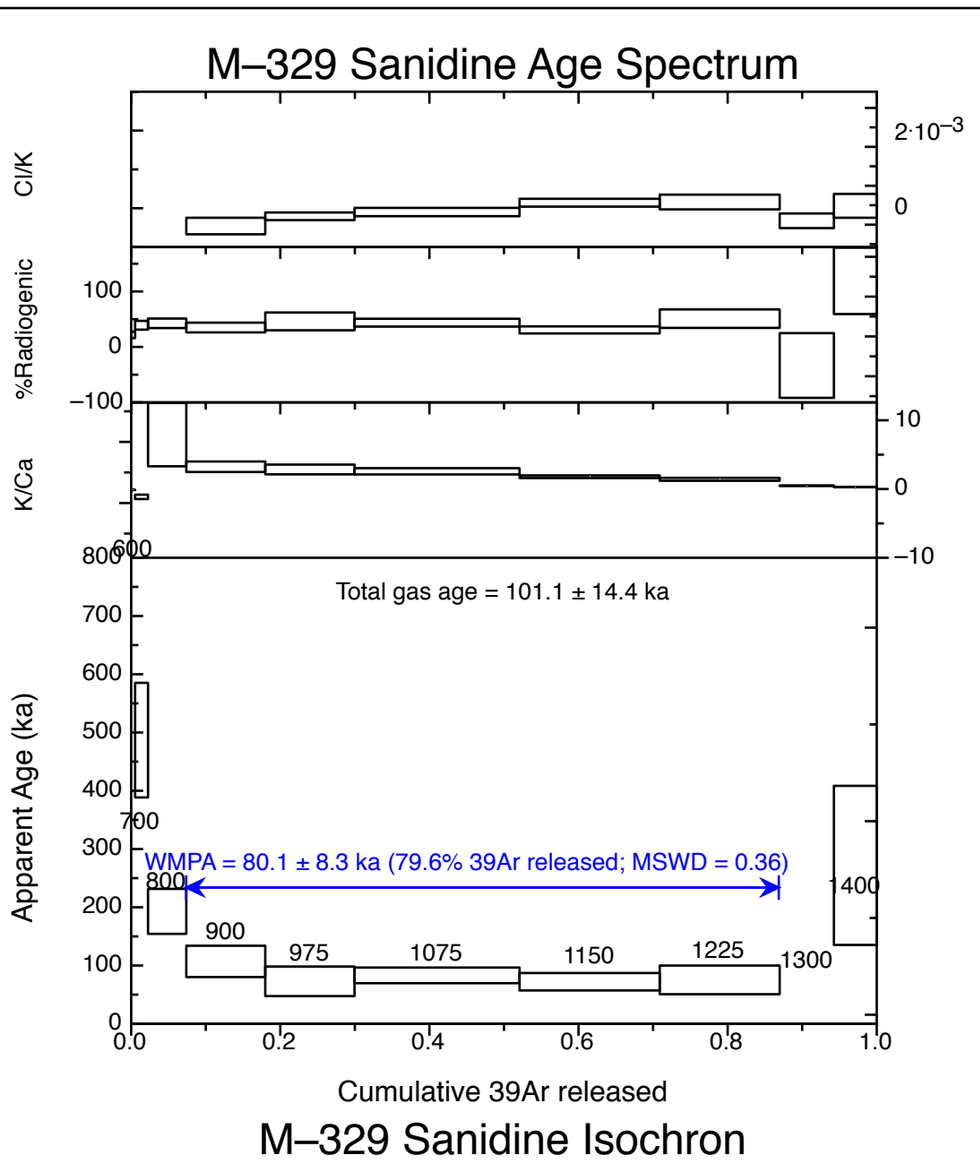


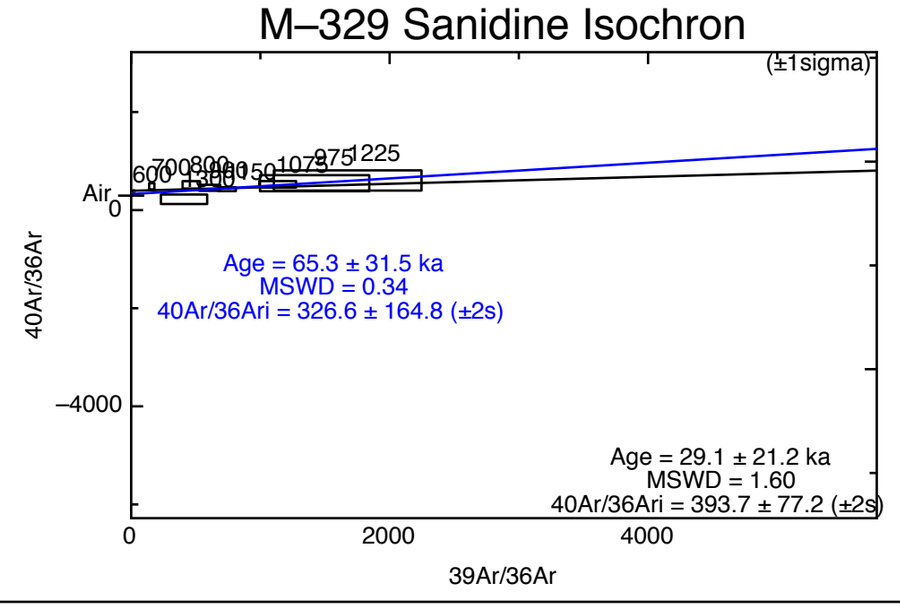

M–322 Anorthoclase Age Spectrum
Cl/K
2·10−3
0
%Radiogenic
120
80
40
0
K/Ca
0.4
0.2
0
300
250
200
150
100
50
0
1350
Total gas age = 176.0 ± 7.3 ka
WMPA = 98.9 ± 7.5 ka (79.1% 39Ar released; MSWD = 0.47)
Apparent Age (ka)
700
800
900
975
1050
1125
1200
1275
1450
0.0
0.2
0.4
0.6
0.8
1.0
Cumulative 39Ar released

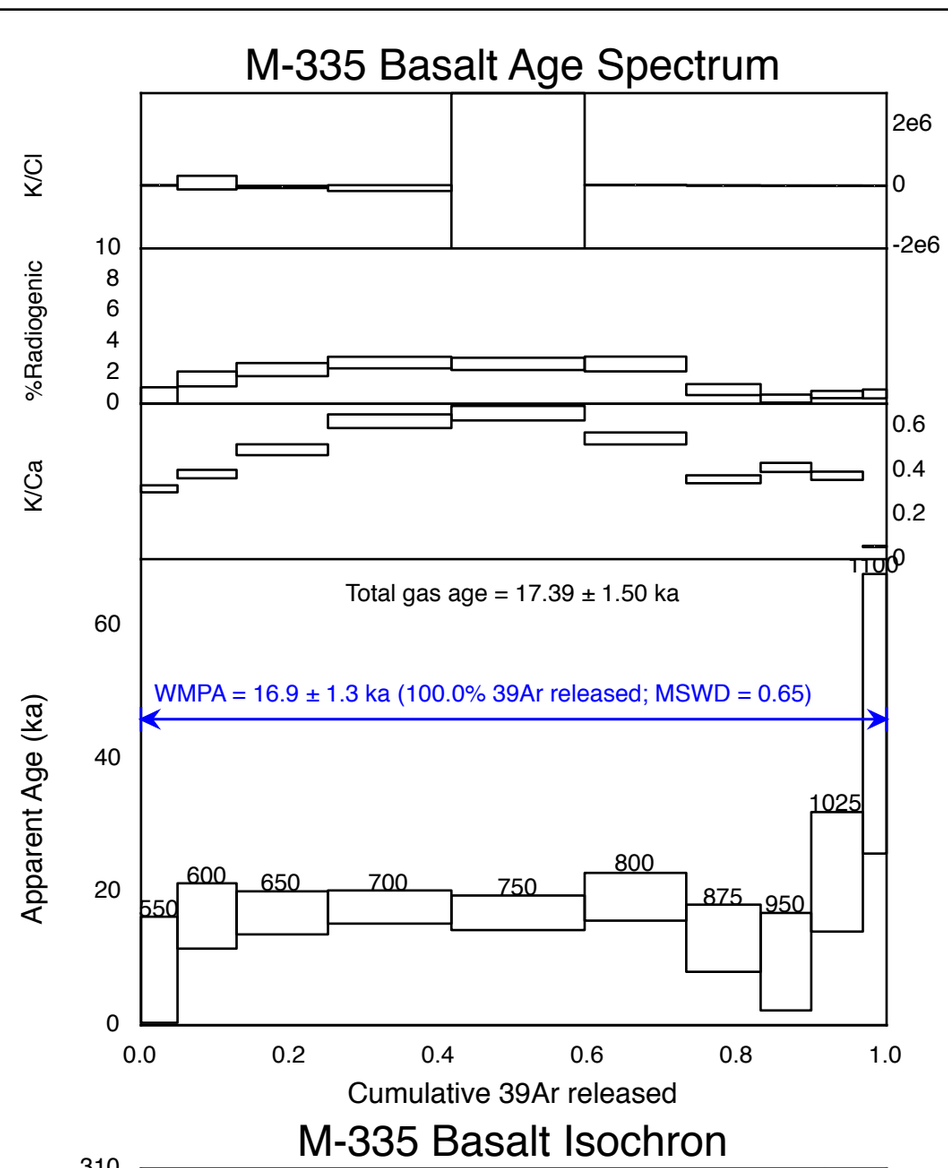

M–322 Anorthoclase Isochron
1350
(±1sigma)
1500
1000
500
Air
0
40Ar/36Ar
Age = 72.8 ± 25.1 ka
MSWD = 0.26
40Ar/36Ari = 307.7 ± 26.6 (±2s)
1450
1275
700
800
900
1200
975
1050
1125
Age = 92.2 ± 49.9 ka
MSWD = 29.68
40Ar/36Ari = 307.2 ± 28.9 (±2s)
0
100
200
39Ar/36Ar

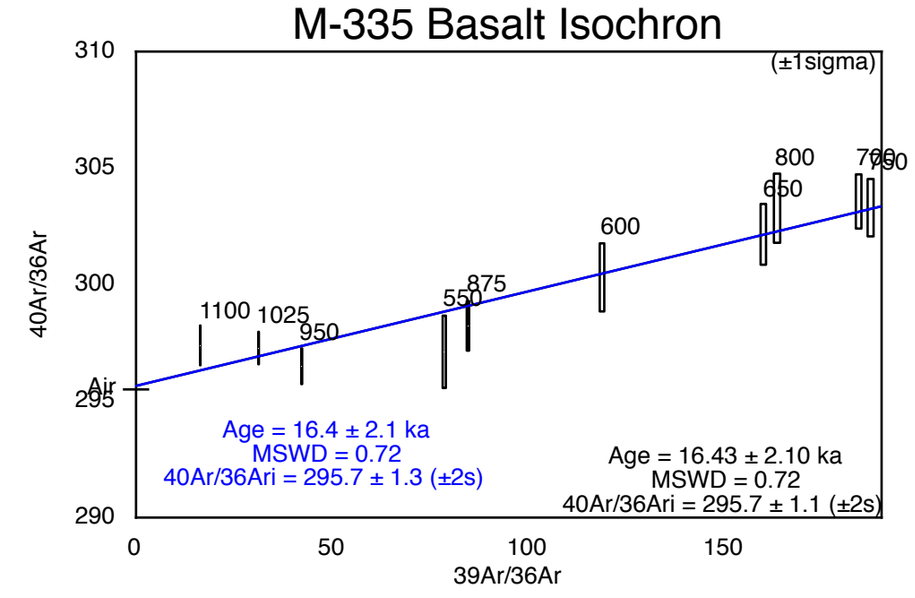

M-324 Basalt Age Spectrum
Cl/K
2e-3
0
%Radiogenic
30
20
10
0
K/Ca
0.6
0.4
0.2
0
200
150
100
50
Total gas age = 151.5 ± 2.0 ka
WMPA = 154.2 ± 1.5 ka (87.4% 39Ar released; MSWD = 0.96)
Apparent Age (ka)
550
600
650
700
750
800
850
900
950
1000
1075
1150
1250
0.0
0.2
0.4
0.6
0.8
1.0
Cumulative 39Ar released

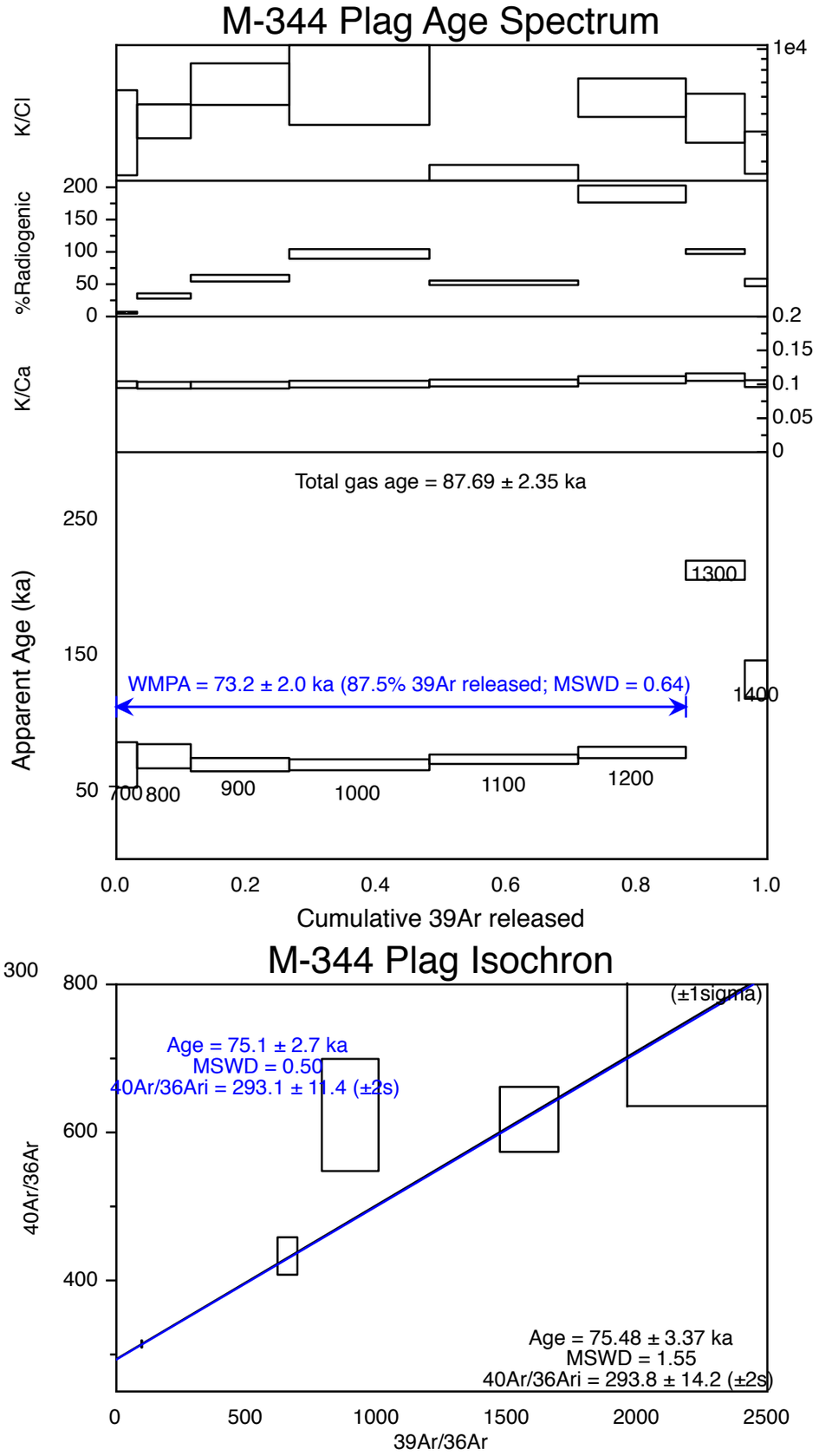

M-324 Basalt Isochron
(±1sigma)
360
340
320
300
Air
40Ar/36Ar
Age = 153.2 ± 4.9 ka
MSWD = 1.08
40Ar/36Ari = 295.9 ± 3.9 (±2s)
850
900
700
650
600
950
1000
1150
1075
1250
Age = 155.7 ± 2.3 ka
MSWD = 1.37
40Ar/36Ari = 294.7 ± 1.2 (±2s)
0
50
100
150
39Ar/36Ar


M–329 Sanidine Age Spectrum
Cl/K
2·10−3
0
%Radiogenic
100
0
−100
K/Ca
10
0
−10
800
700
600
Total gas age = 101.1 ± 14.4 ka
WMPA = 80.1 ± 8.3 ka (79.6% 39Ar released; MSWD = 0.36)
Apparent Age (ka)
500
400
300
200
100
0
700
800
900
975
1075
1150
1225
1300
1400
0.0
0.2
0.4
0.6
0.8
1.0
Cumulative 39Ar released

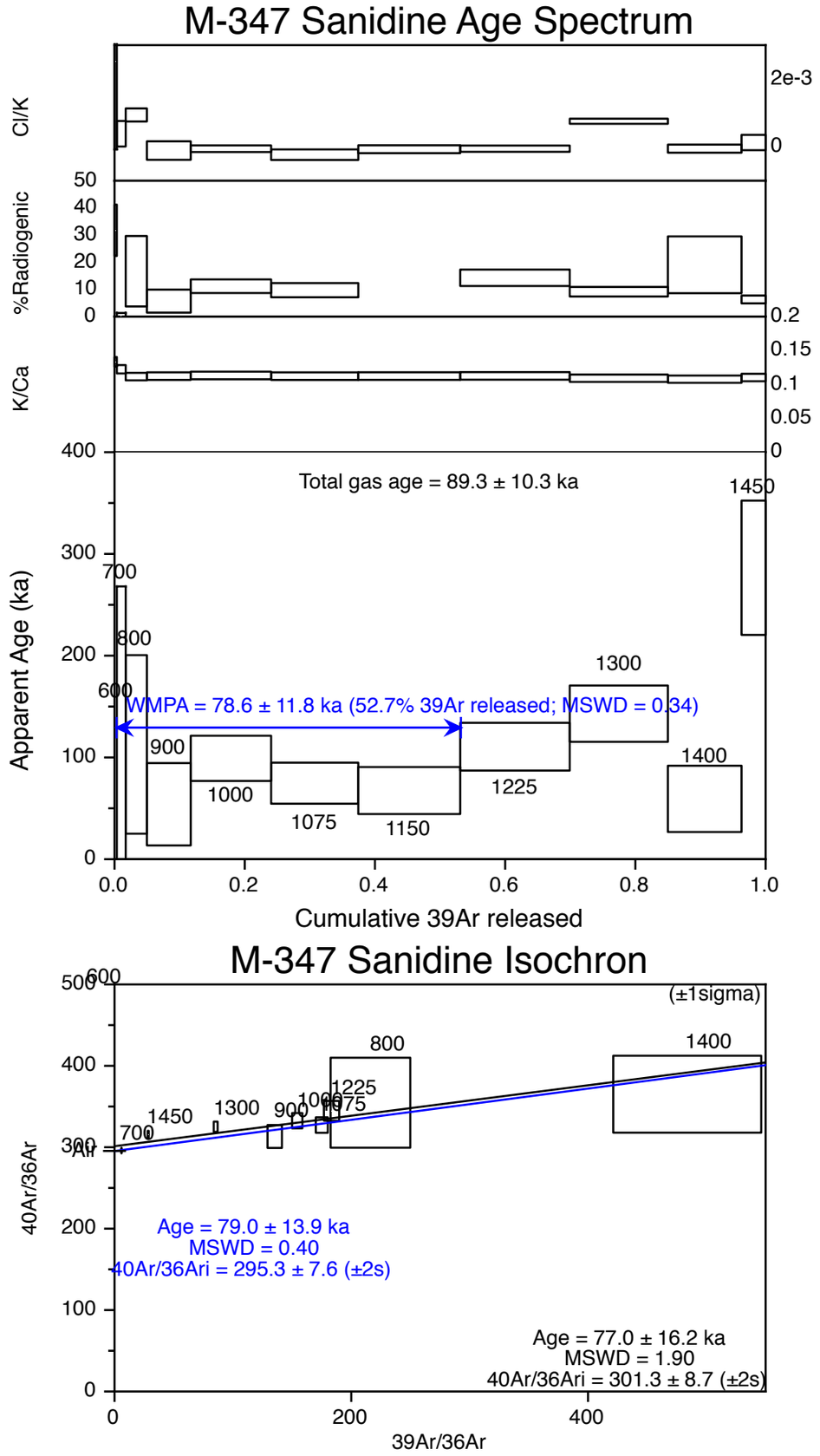

M–329 Sanidine Isochron
(±1sigma)
Air
0
−4000
40Ar/36Ar
Age = 65.3 ± 31.5 ka
MSWD = 0.34
40Ar/36Ari = 326.6 ± 164.8 (±2s)
600
700
800
900
1050
1075
975
1225
Age = 29.1 ± 21.2 ka
MSWD = 1.60
40Ar/36Ari = 393.7 ± 77.2 (±2s)
0
2000
4000
39Ar/36Ar


M-335 Basalt Age Spectrum
K/Cl
2e6
0
-2e6
%Radiogenic
10
8
6
4
2
0
K/Ca
0.6
0.4
0.2
0
1100
60
40
20
0
Total gas age = 17.39 ± 1.50 ka
WMPA = 16.9 ± 1.3 ka (100.0% 39Ar released; MSWD = 0.65)
Apparent Age (ka)
550
600
650
700
750
800
875
950
1025
0.0
0.2
0.4
0.6
0.8
1.0
Cumulative 39Ar released

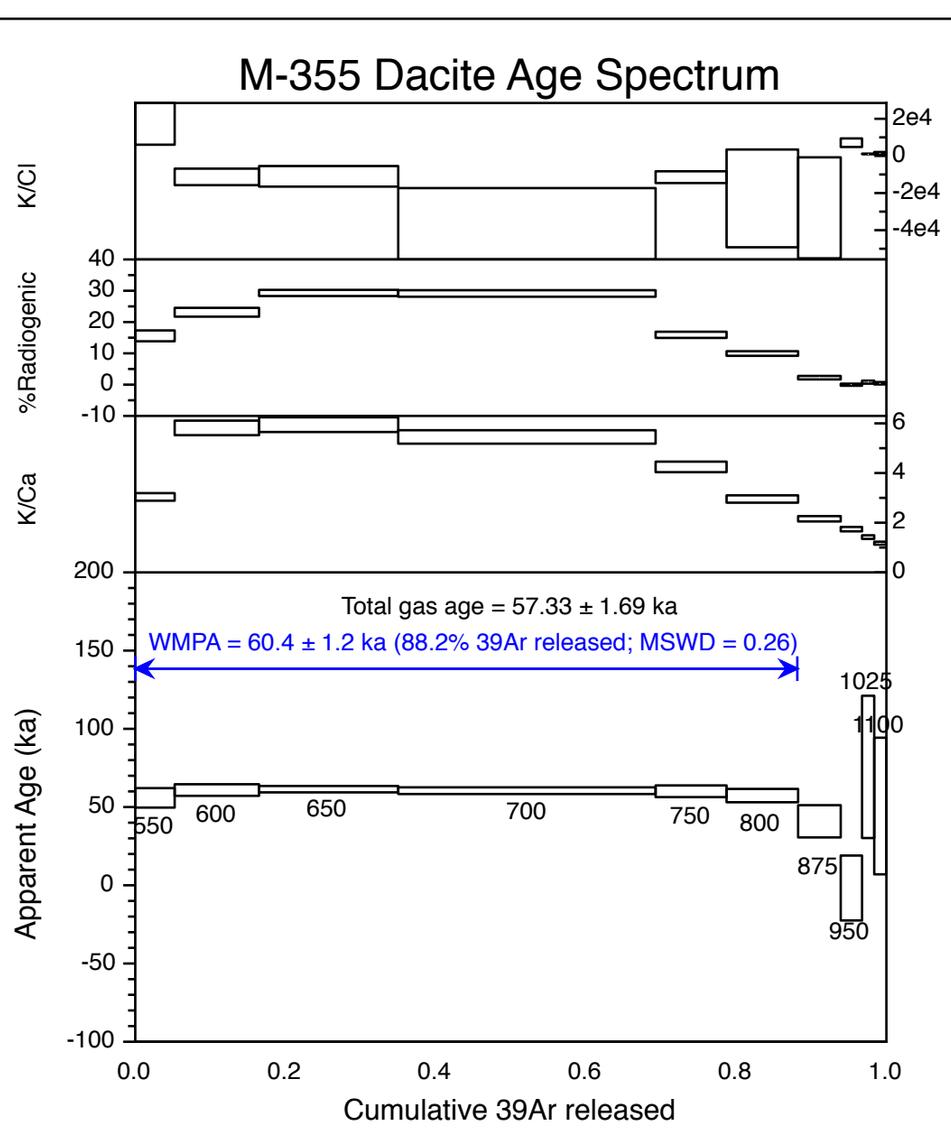

M-335 Basalt Isochron
(±1sigma)
310
305
300
295
290
Air
40Ar/36Ar
Age = 16.4 ± 2.1 ka
MSWD = 0.72
40Ar/36Ari = 295.7 ± 1.3 (±2s)
1100
1025
950
875
550
600
800
650
700
Age = 16.43 ± 2.10 ka
MSWD = 0.72
40Ar/36Ari = 295.7 ± 1.1 (±2s)
0
50
100
150
39Ar/36Ar

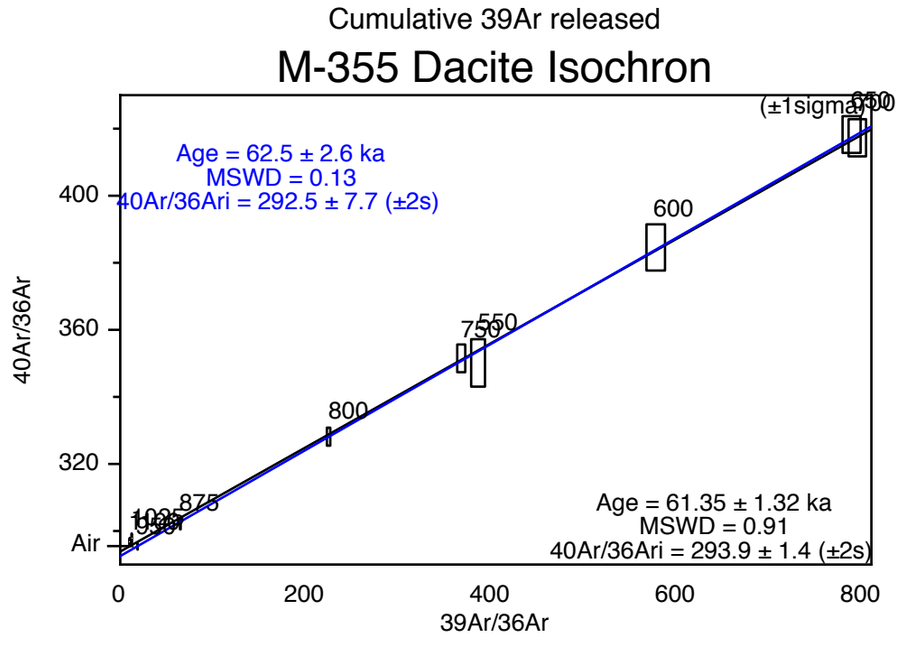

M-344 Plag Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 87.69 ± 2.35 ka
WMPA = 73.2 ± 2.0 ka (87.5% 39Ar released; MSWD = 0.64)
Cumulative 39Ar released

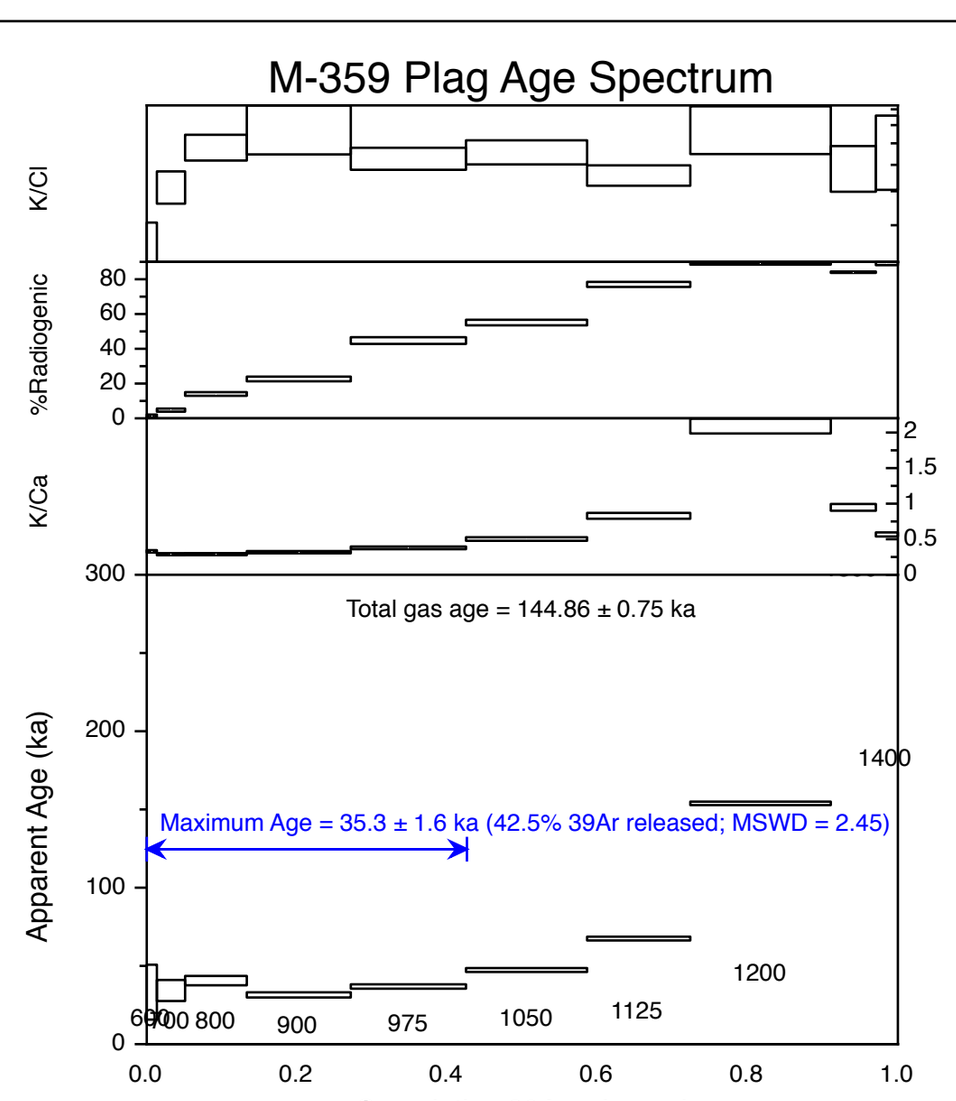
M-344 Plag Isochron
Age = 75.1 ± 2.7 ka
MSWD = 0.50
40Ar/36Ari = 293.1 ± 11.4 (±2s)
(±1sigma)
Age = 75.48 ± 3.37 ka
MSWD = 1.55
40Ar/36Ari = 293.8 ± 14.2 (±2s)
40Ar/36Ar
39Ar/36Ar

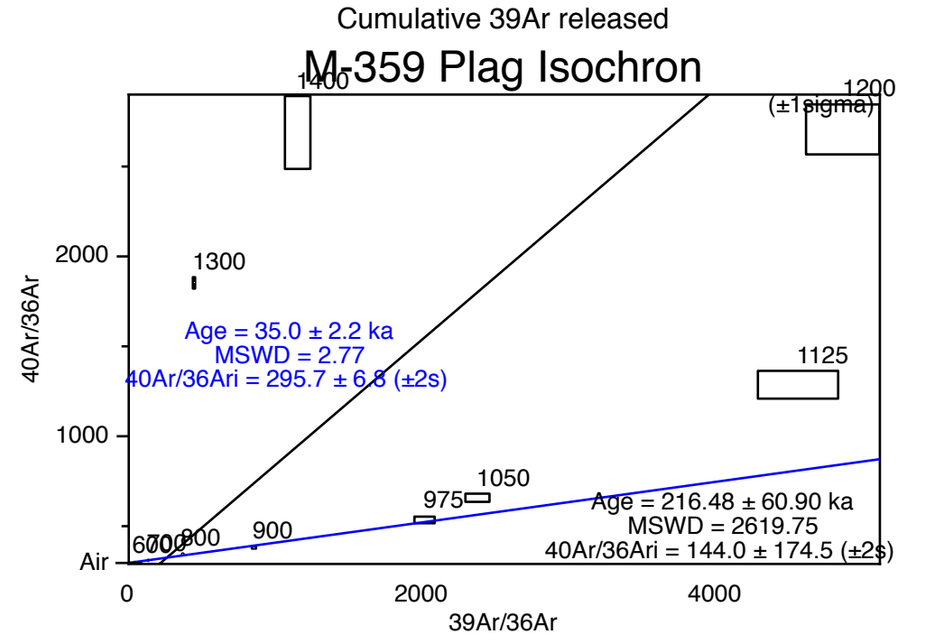

M-347 Sanidine Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 89.3 ± 10.3 ka
WMPA = 78.6 ± 11.8 ka (52.7% 39Ar released; MSWD = 0.34)
Cumulative 39Ar released

M-347 Sanidine Isochron
(±1sigma)
Age = 79.0 ± 13.9 ka
MSWD = 0.40
40Ar/36Ari = 295.3 ± 7.6 (±2s)
Age = 77.0 ± 16.2 ka
MSWD = 1.90
40Ar/36Ari = 301.3 ± 8.7 (±2s)
40Ar/36Ar
39Ar/36Ar

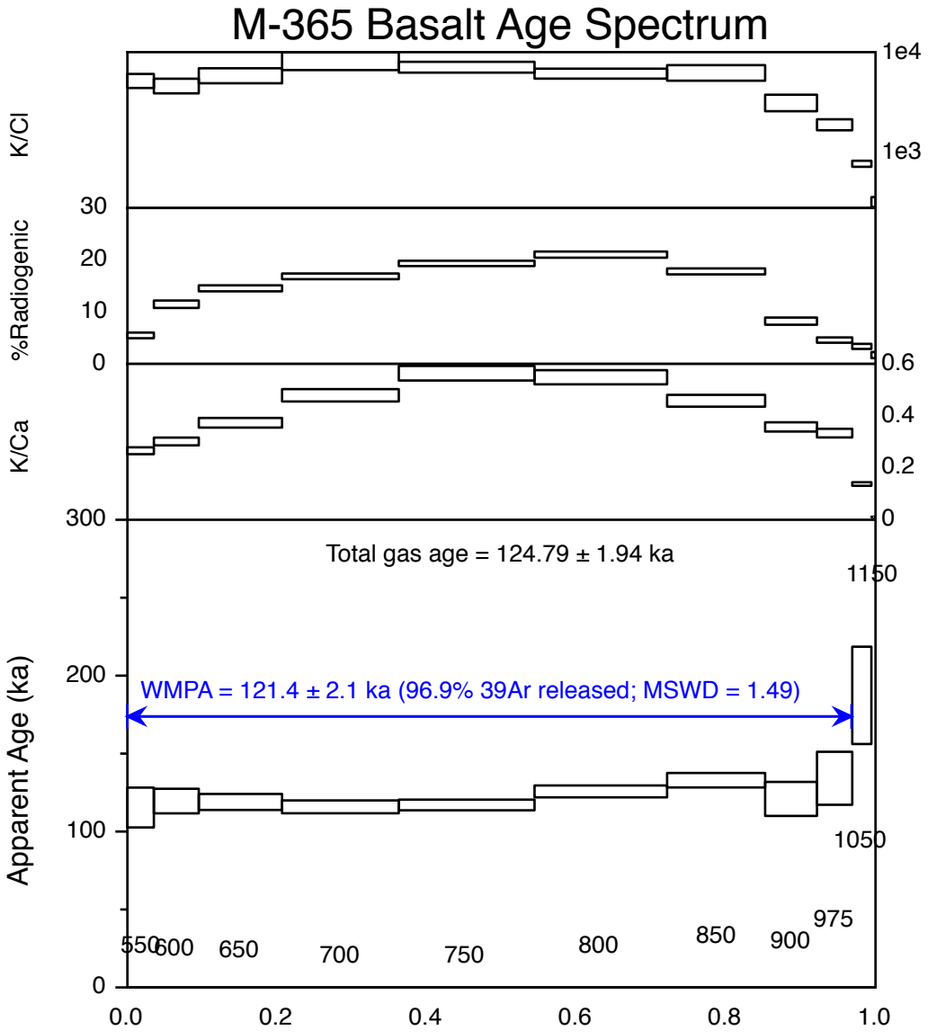

M-355 Dacite Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 57.33 ± 1.69 ka
WMPA = 60.4 ± 1.2 ka (88.2% 39Ar released; MSWD = 0.26)
Cumulative 39Ar released


M-355 Dacite Isochron
Age = 62.5 ± 2.6 ka
MSWD = 0.13
40Ar/36Ari = 292.5 ± 7.7 (±2s)
(±1sigma)
Age = 61.35 ± 1.32 ka
MSWD = 0.91
40Ar/36Ari = 293.9 ± 1.4 (±2s)
40Ar/36Ar
39Ar/36Ar

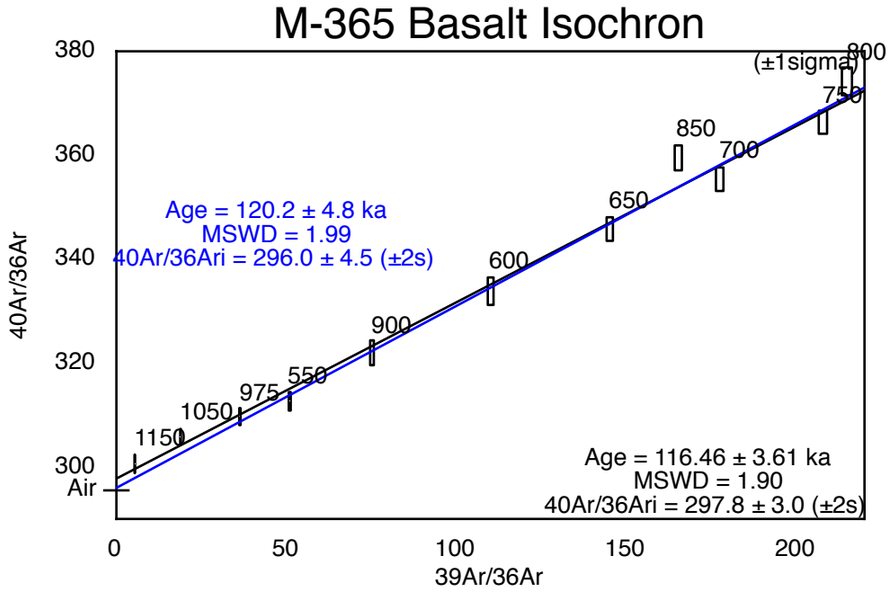

M-359 Plag Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 144.86 ± 0.75 ka
Maximum Age = 35.3 ± 1.6 ka (42.5% 39Ar released; MSWD = 2.45)
Cumulative 39Ar released


M-359 Plag Isochron
(±1sigma)
Age = 35.0 ± 2.2 ka
MSWD = 2.77
40Ar/36Ari = 295.7 ± 6.8 (±2s)
Age = 216.48 ± 60.90 ka
MSWD = 2619.75
40Ar/36Ari = 144.0 ± 174.5 (±2s)
40Ar/36Ar
39Ar/36Ar

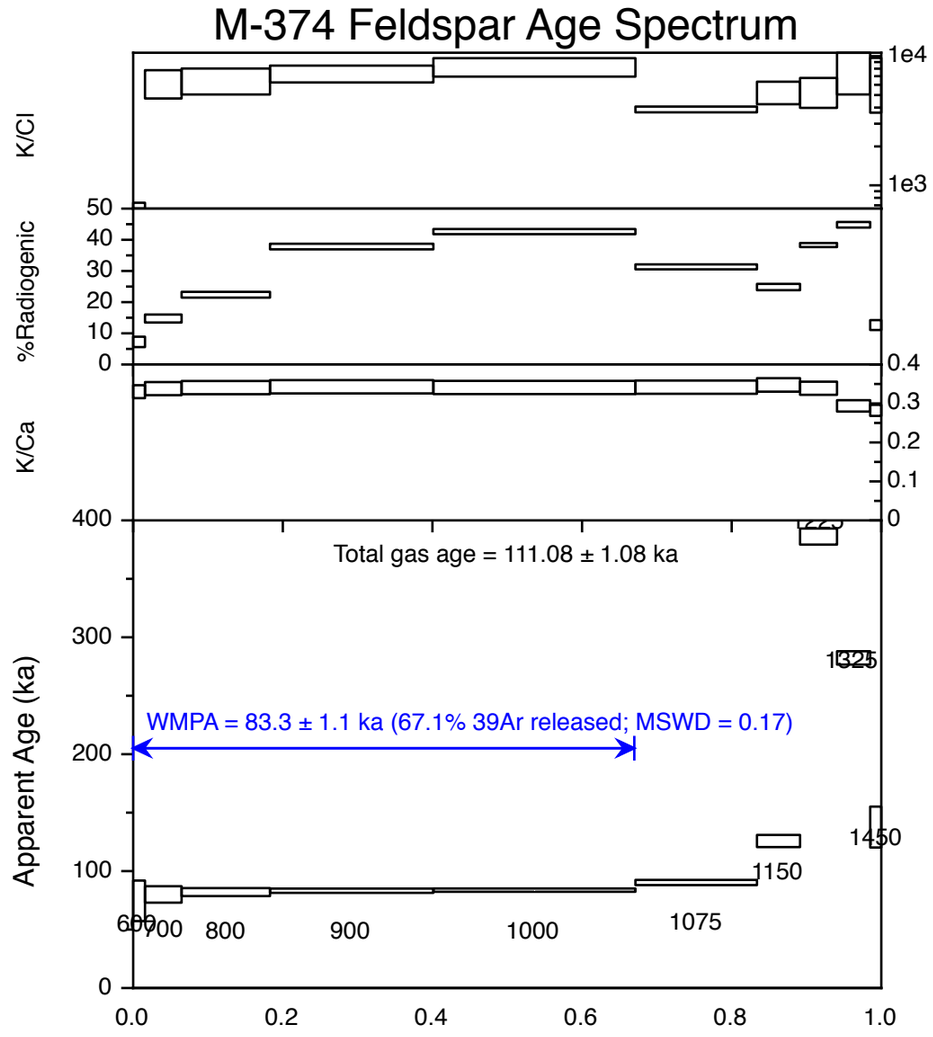
M-365 Basalt Age Spectrum



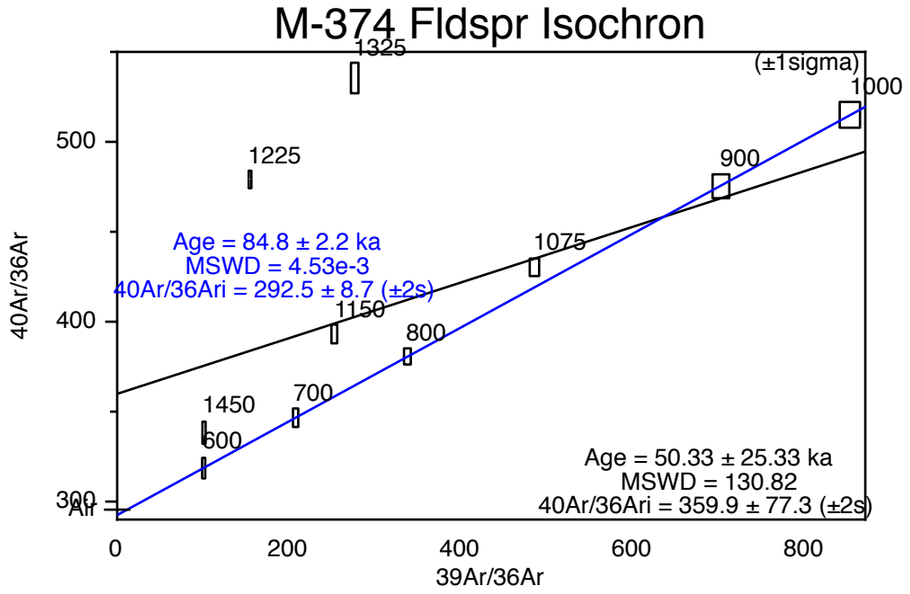
M-365 Basalt Isochron



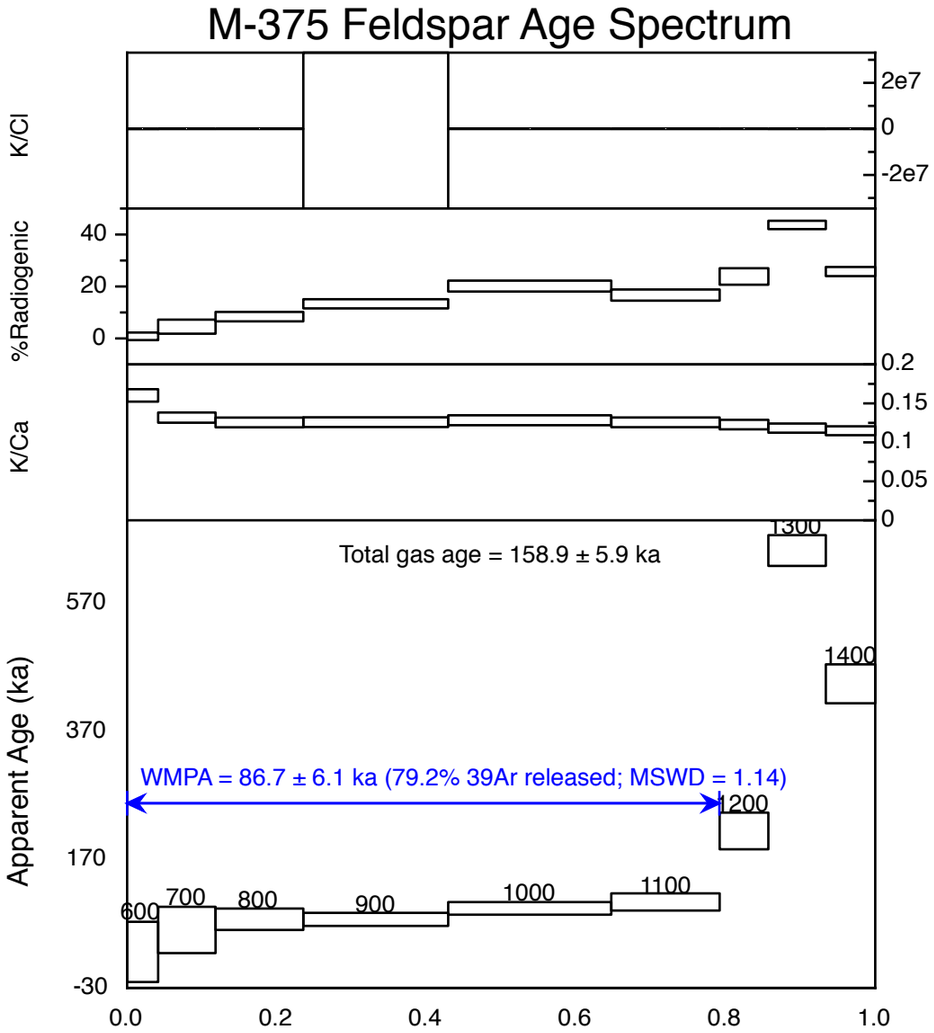
M-374 Feldspar Age Spectrum



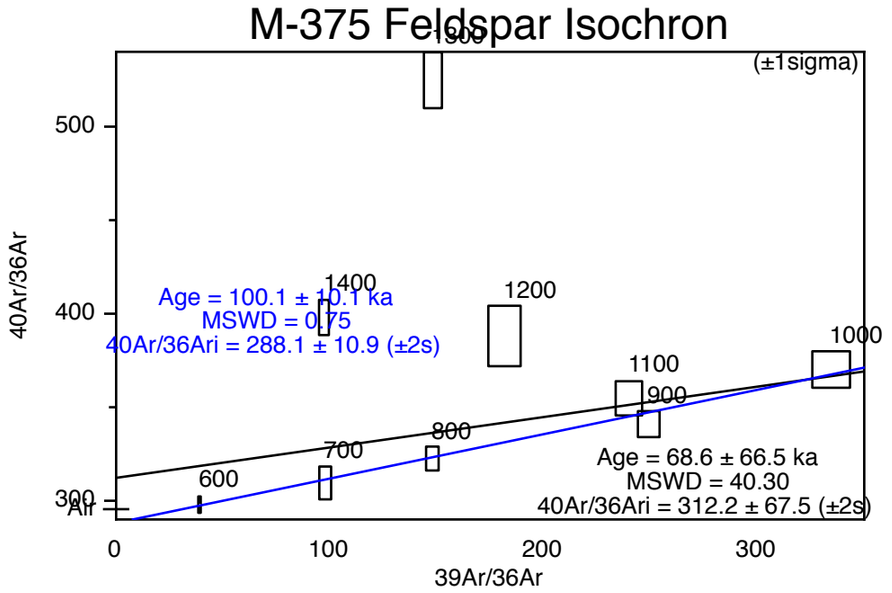
M-374 Fldspr Isochron



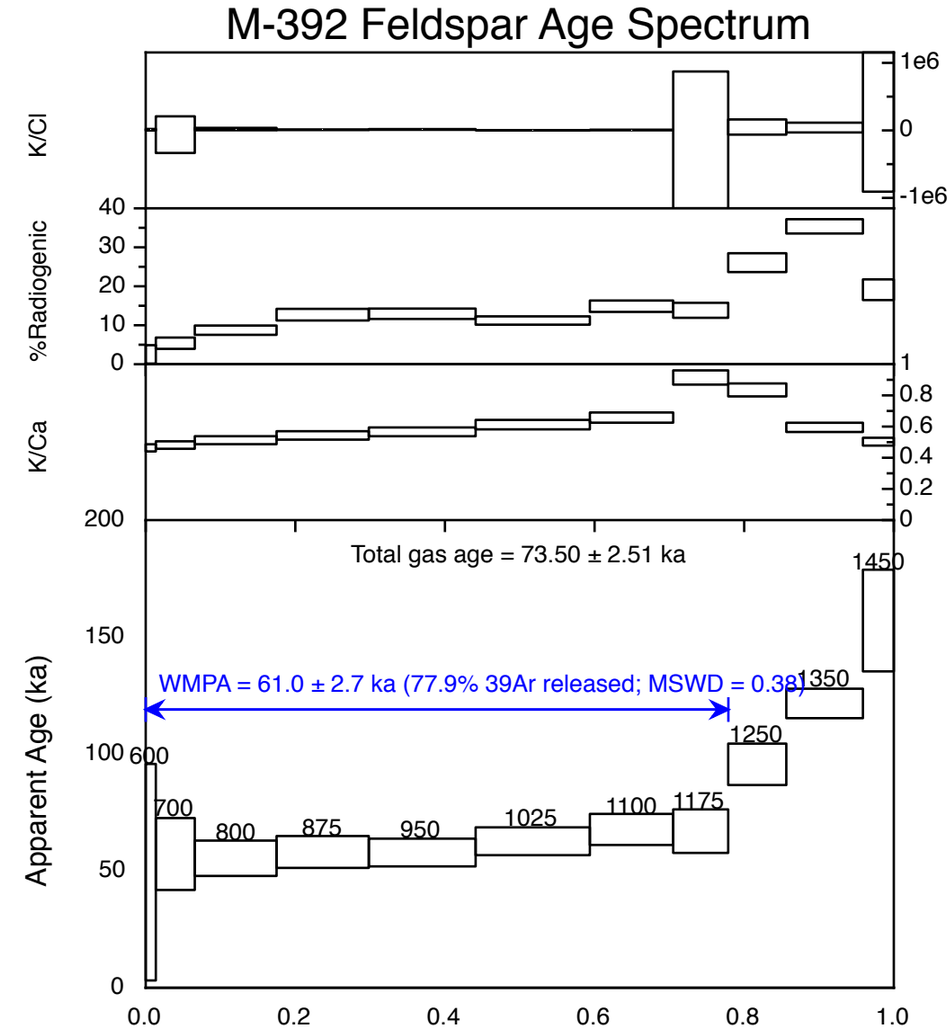
M-375 Feldspar Age Spectrum



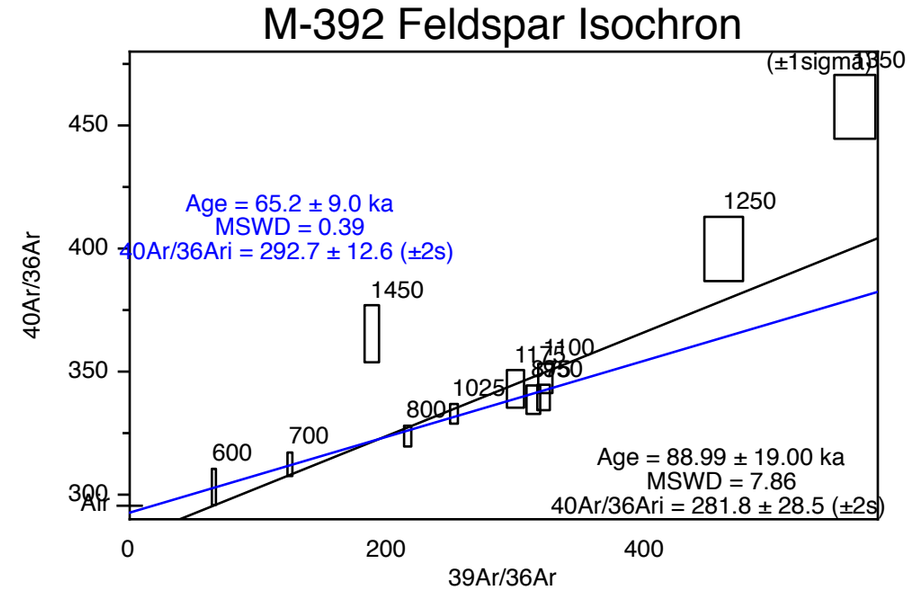
M-375 Feldspar Isochron

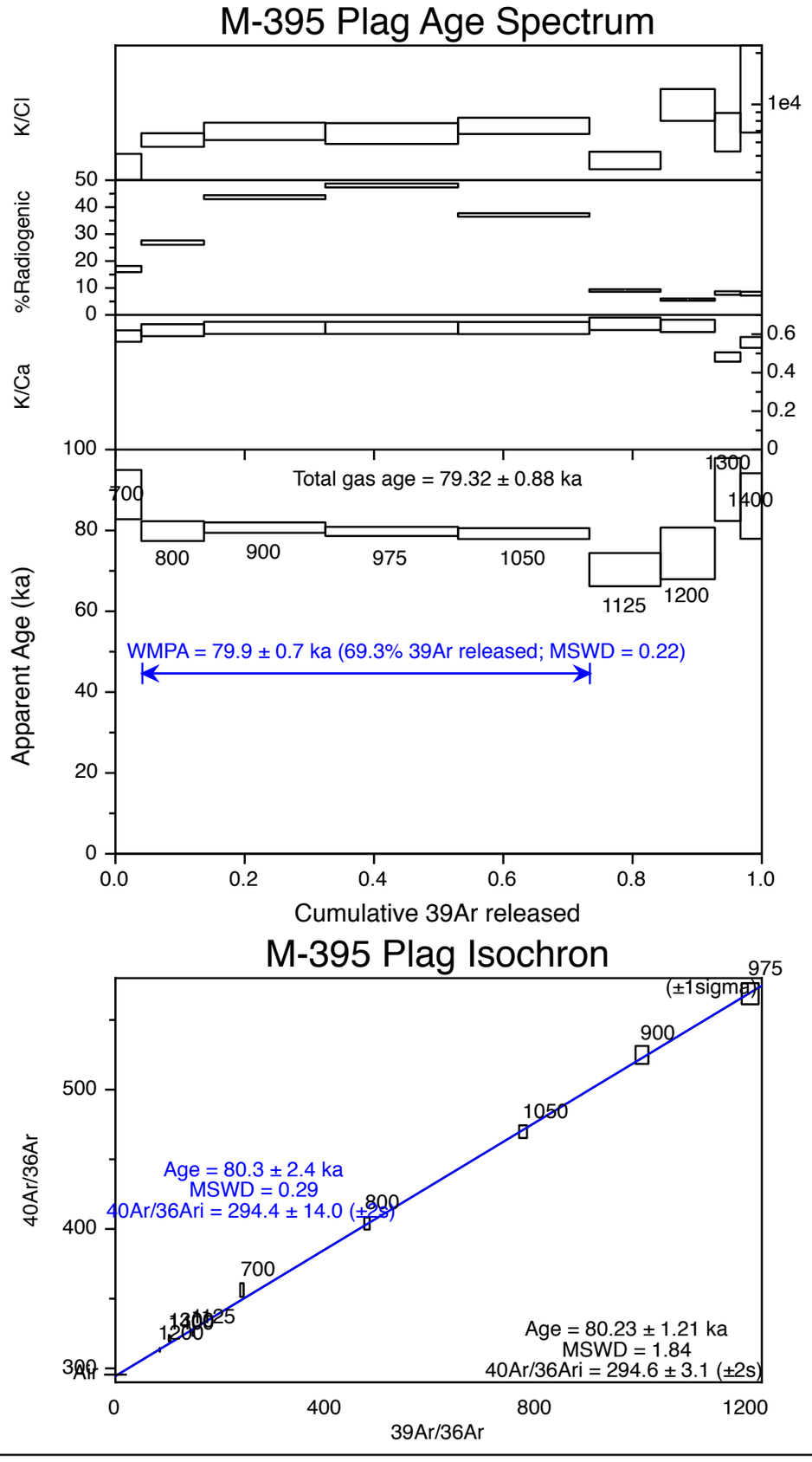


M-392 Feldspar Age Spectrum

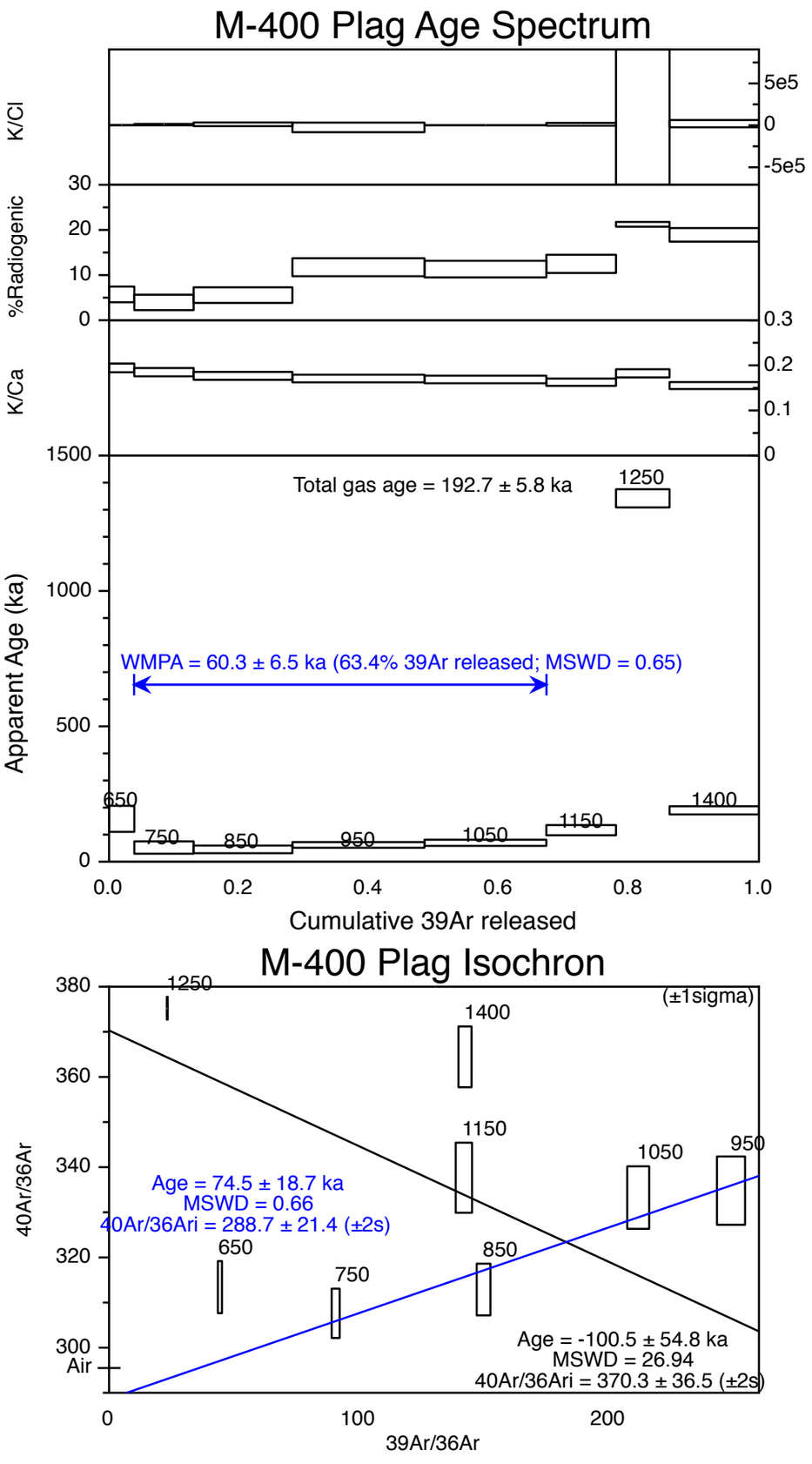


M-392 Feldspar Isochron

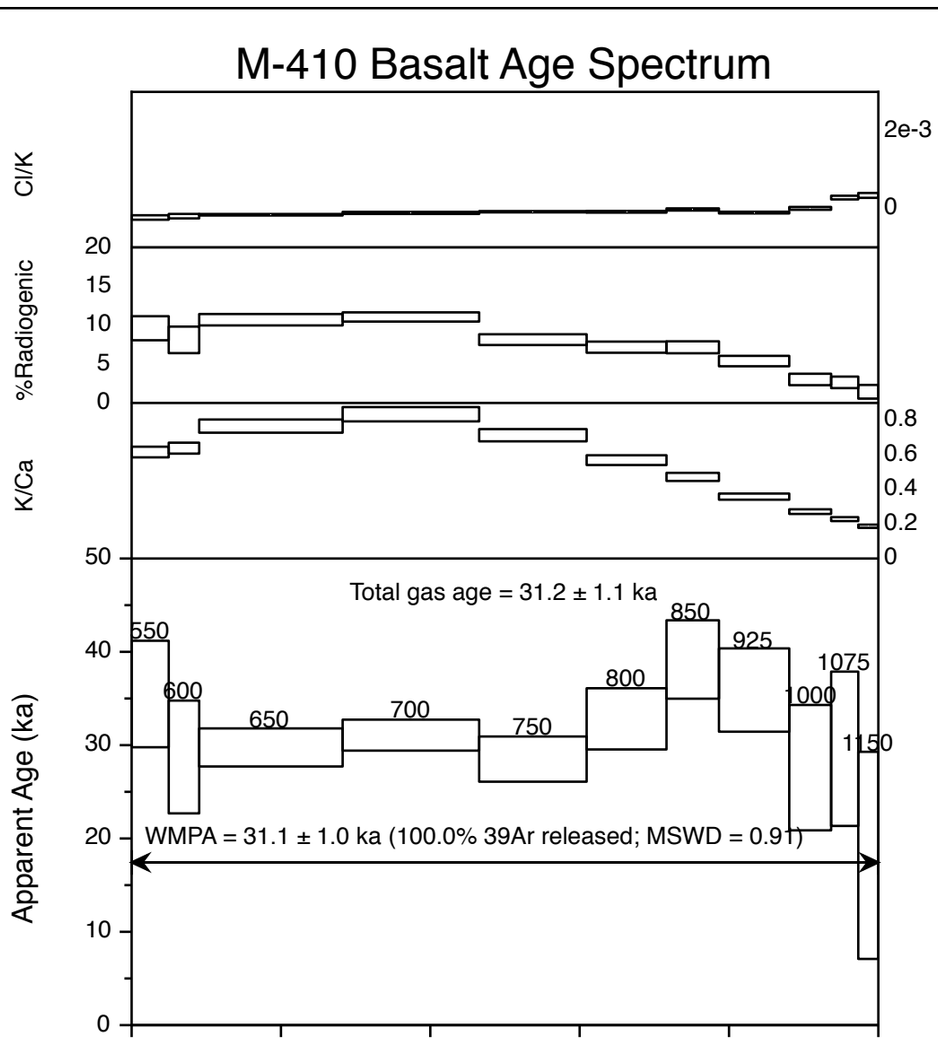


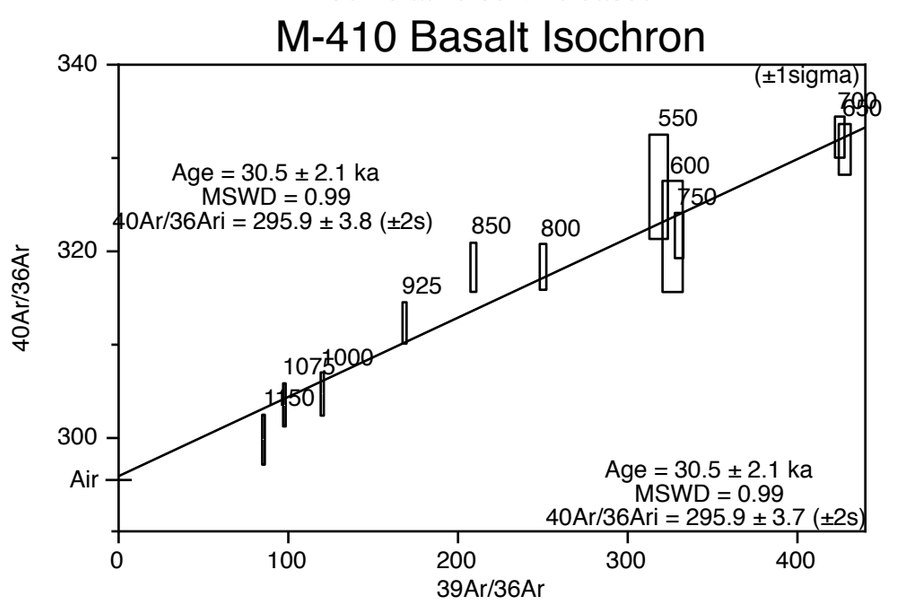

M-395 Plag Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 79.32 ± 0.88 ka
WMPA = 79.9 ± 0.7 ka (69.3% 39Ar released; MSWD = 0.22)
Cumulative 39Ar released

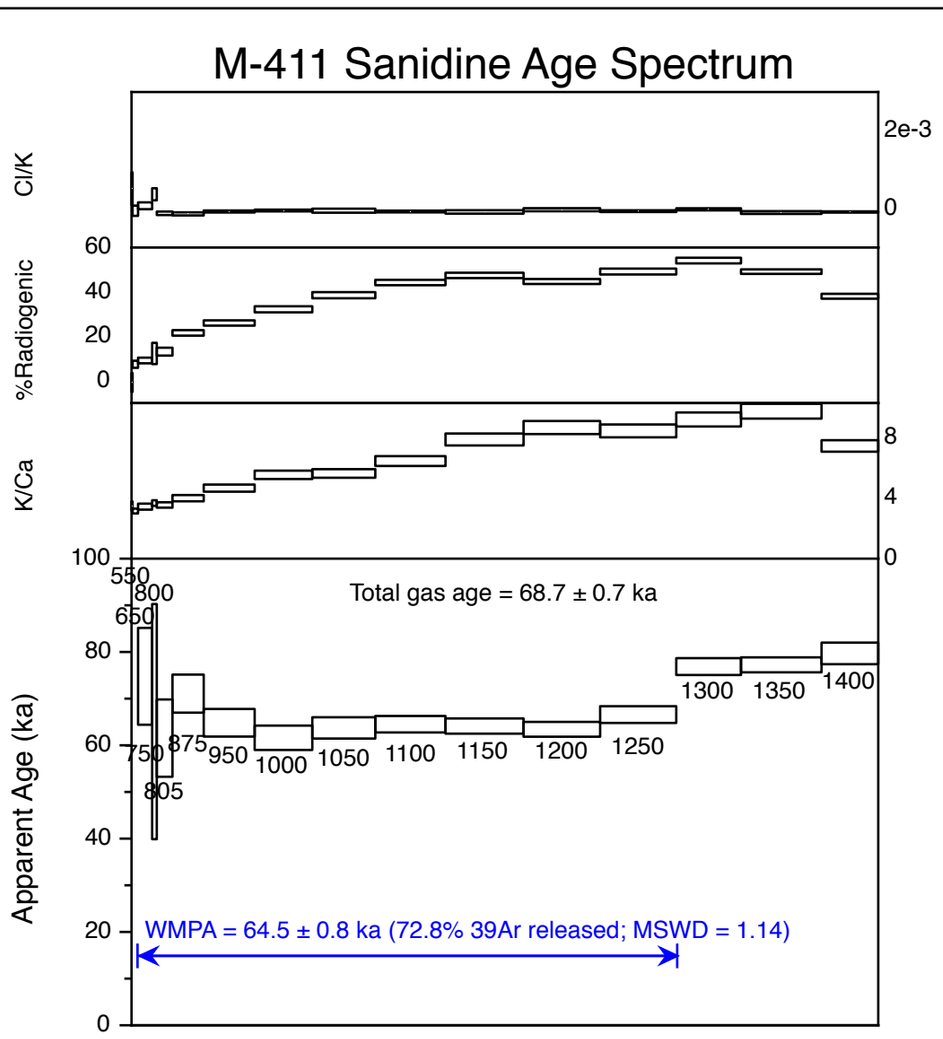
M-395 Plag Isochron
(±1sigma)
Age = 80.3 ± 2.4 ka
MSWD = 0.29
40Ar/36Ari = 294.4 ± 14.0 (±2s)
Age = 80.23 ± 1.21 ka
MSWD = 1.84
40Ar/36Ari = 294.6 ± 3.1 (±2s)
40Ar/36Ar
39Ar/36Ar

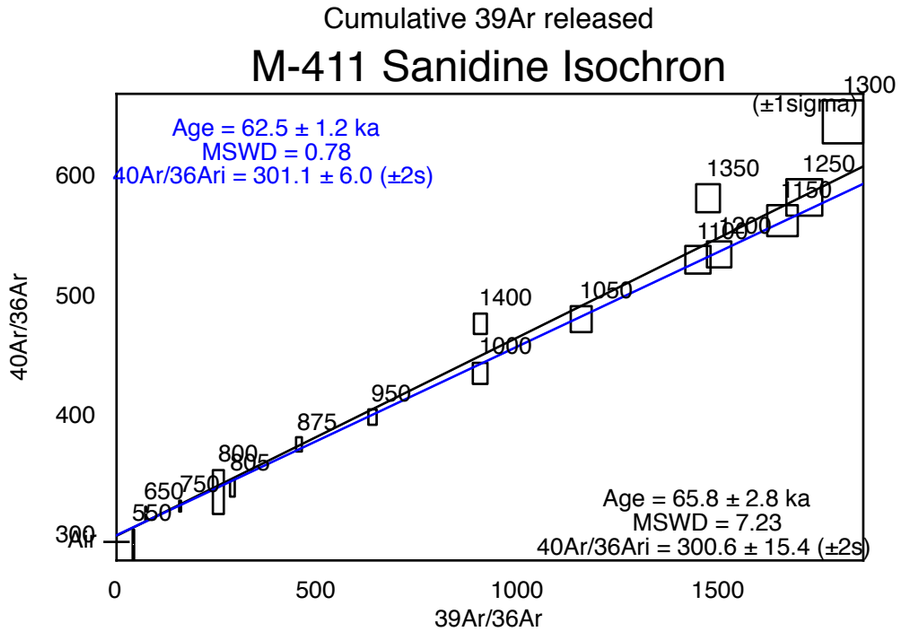

M-400 Plag Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 192.7 ± 5.8 ka
WMPA = 60.3 ± 6.5 ka (63.4% 39Ar released; MSWD = 0.65)
Cumulative 39Ar released

M-400 Plag Isochron
(±1sigma)
Age = 74.5 ± 18.7 ka
MSWD = 0.66
40Ar/36Ari = 288.7 ± 21.4 (±2s)
Age = -100.5 ± 54.8 ka
MSWD = 26.94
40Ar/36Ari = 370.3 ± 36.5 (±2s)
40Ar/36Ar
39Ar/36Ar

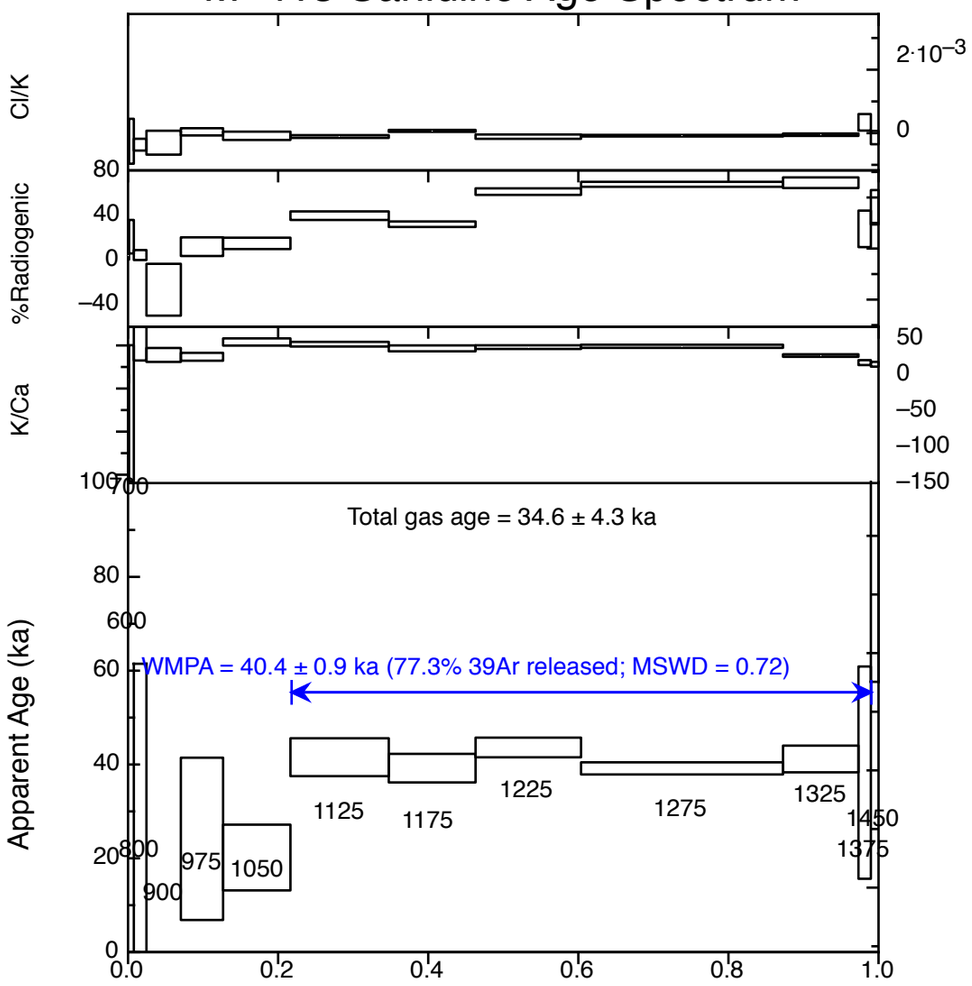

M-410 Basalt Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 31.2 ± 1.1 ka
WMPA = 31.1 ± 1.0 ka (100.0% 39Ar released; MSWD = 0.91)
Cumulative 39Ar released


M-410 Basalt Isochron
(±1sigma)
Age = 30.5 ± 2.1 ka
MSWD = 0.99
40Ar/36Ari = 295.9 ± 3.8 (±2s)
Age = 30.5 ± 2.1 ka
MSWD = 0.99
40Ar/36Ari = 295.9 ± 3.7 (±2s)
40Ar/36Ar
39Ar/36Ar

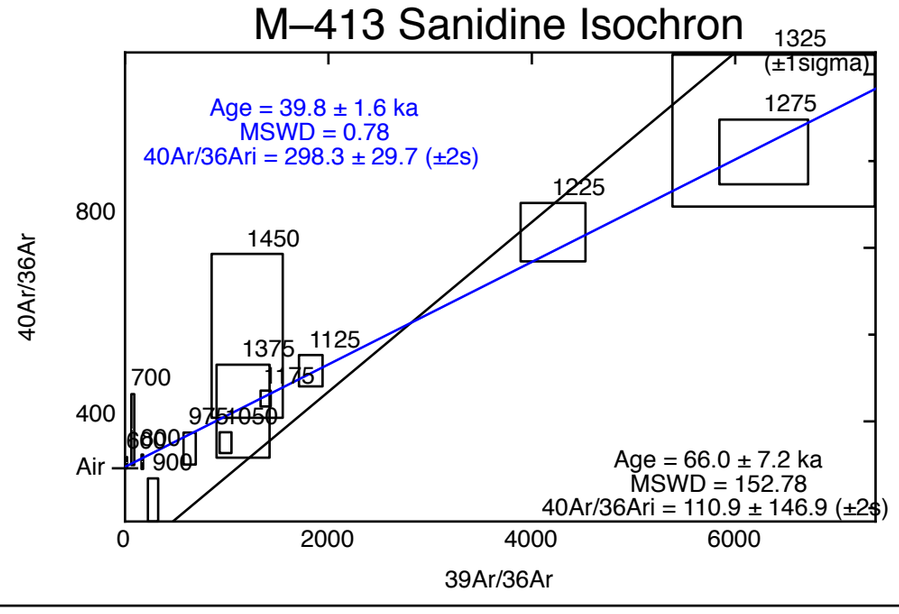

M-411 Sanidine Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 68.7 ± 0.7 ka
WMPA = 64.5 ± 0.8 ka (72.8% 39Ar released; MSWD = 1.14)
Cumulative 39Ar released


M-411 Sanidine Isochron
(±1sigma)
Age = 62.5 ± 1.2 ka
MSWD = 0.78
40Ar/36Ari = 301.1 ± 6.0 (±2s)
Age = 65.8 ± 2.8 ka
MSWD = 7.23
40Ar/36Ari = 300.6 ± 15.4 (±2s)
40Ar/36Ar
39Ar/36Ar

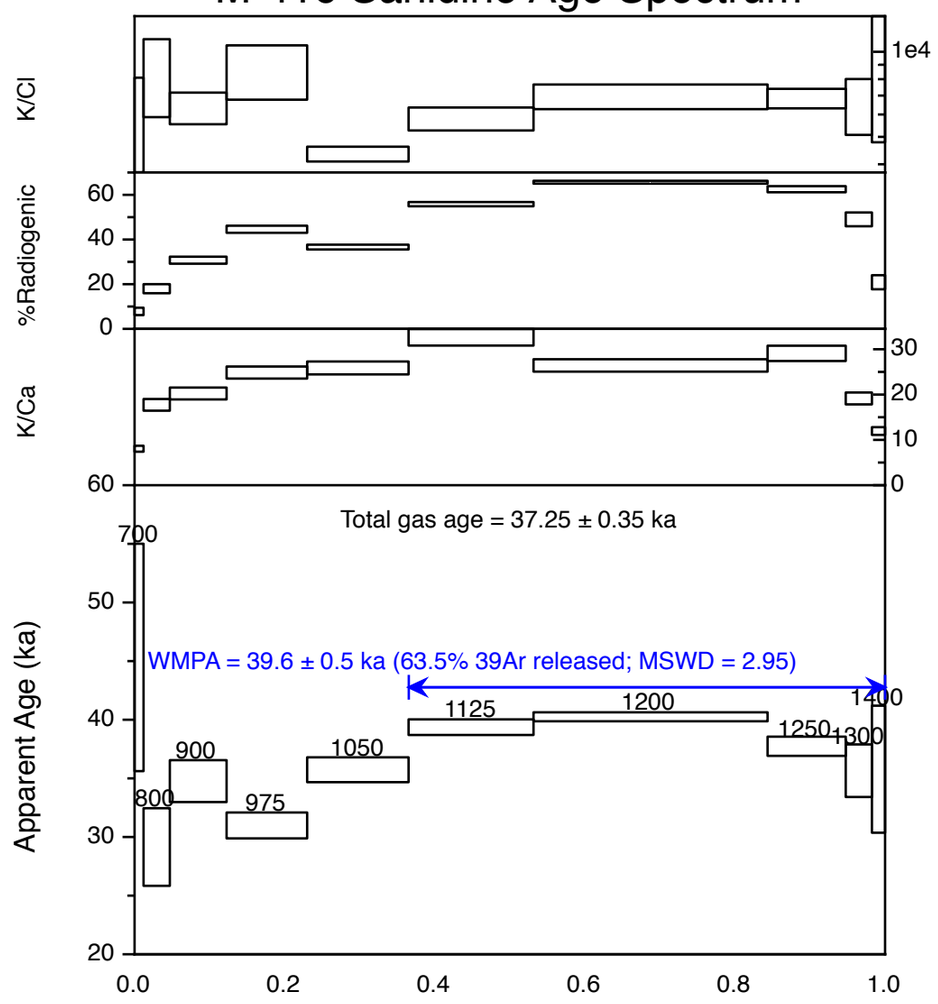
M–413 Sanidine Age Spectrum



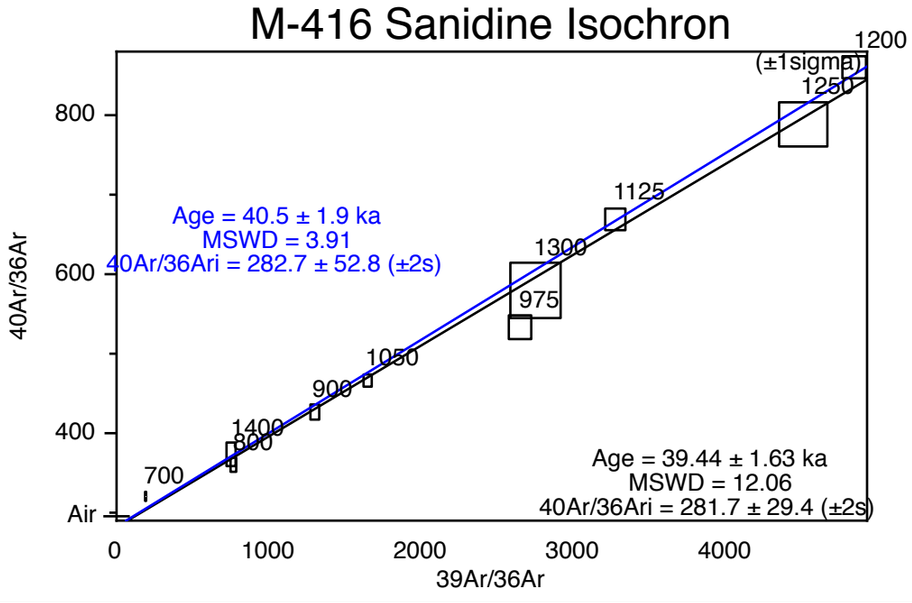
M–413 Sanidine Isochron



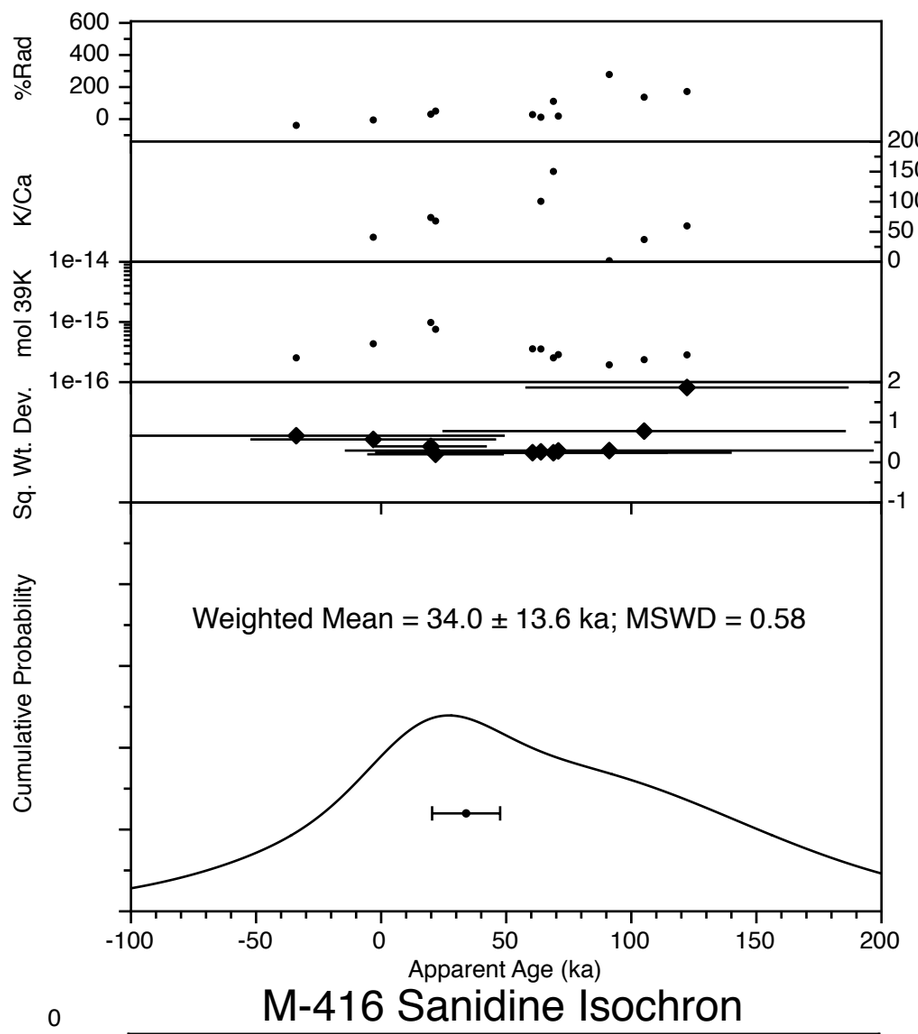
M-416 Sanidine Age Spectrum



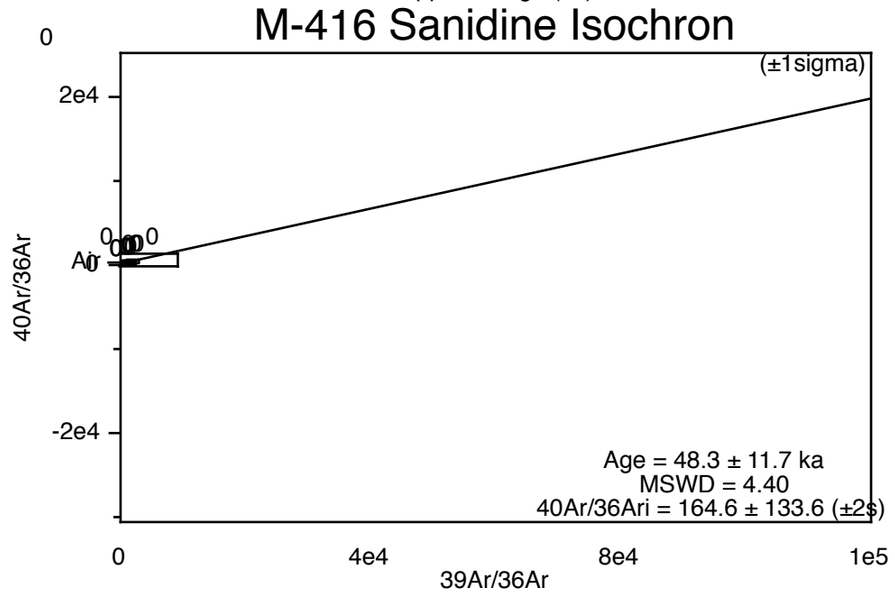
M-416 Sanidine Isochron



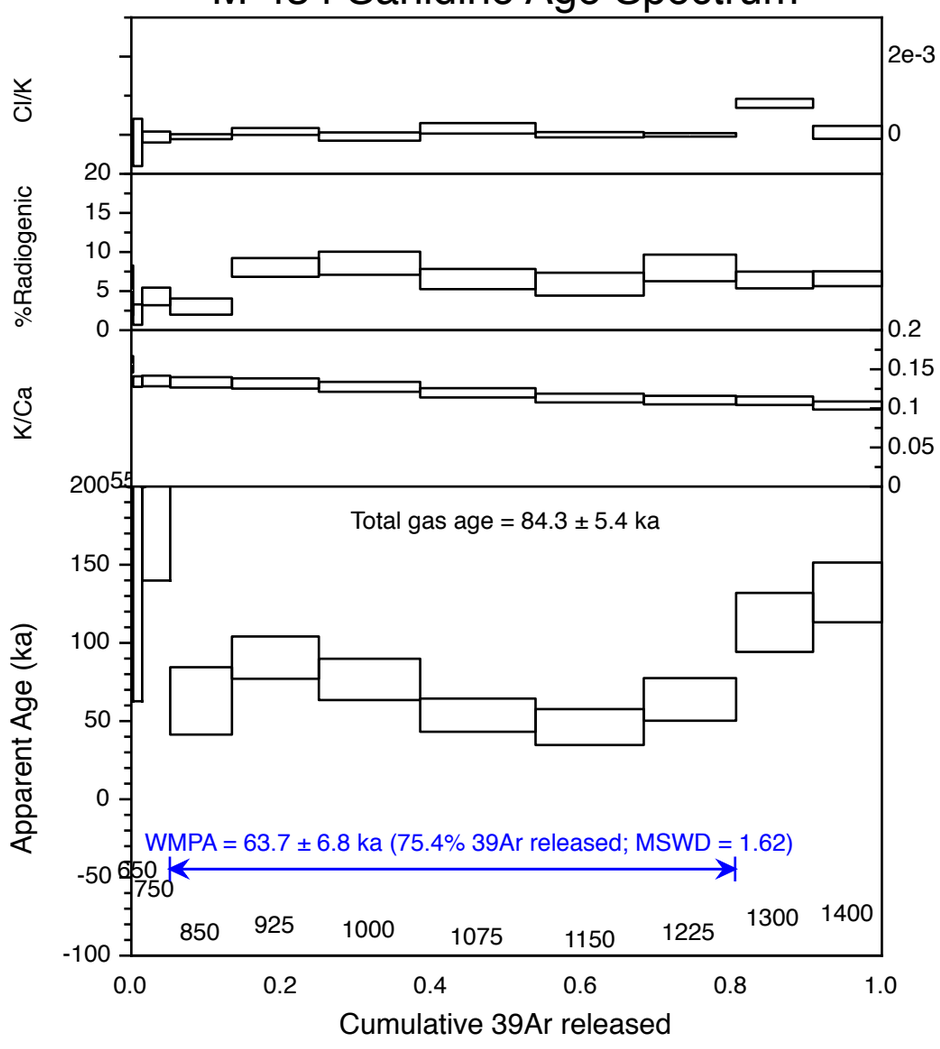
M-416 Sanidine Single Crystals



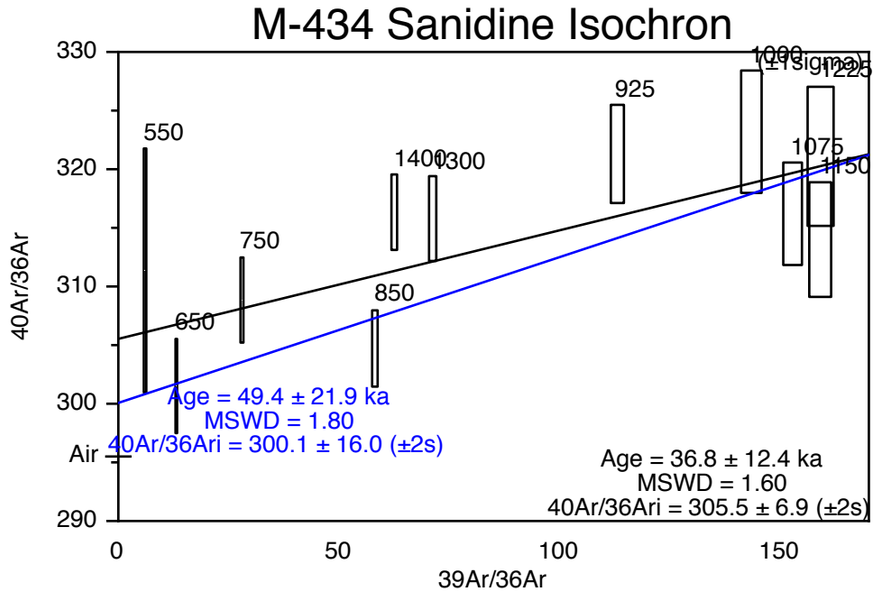
M-416 Sanidine Isochron

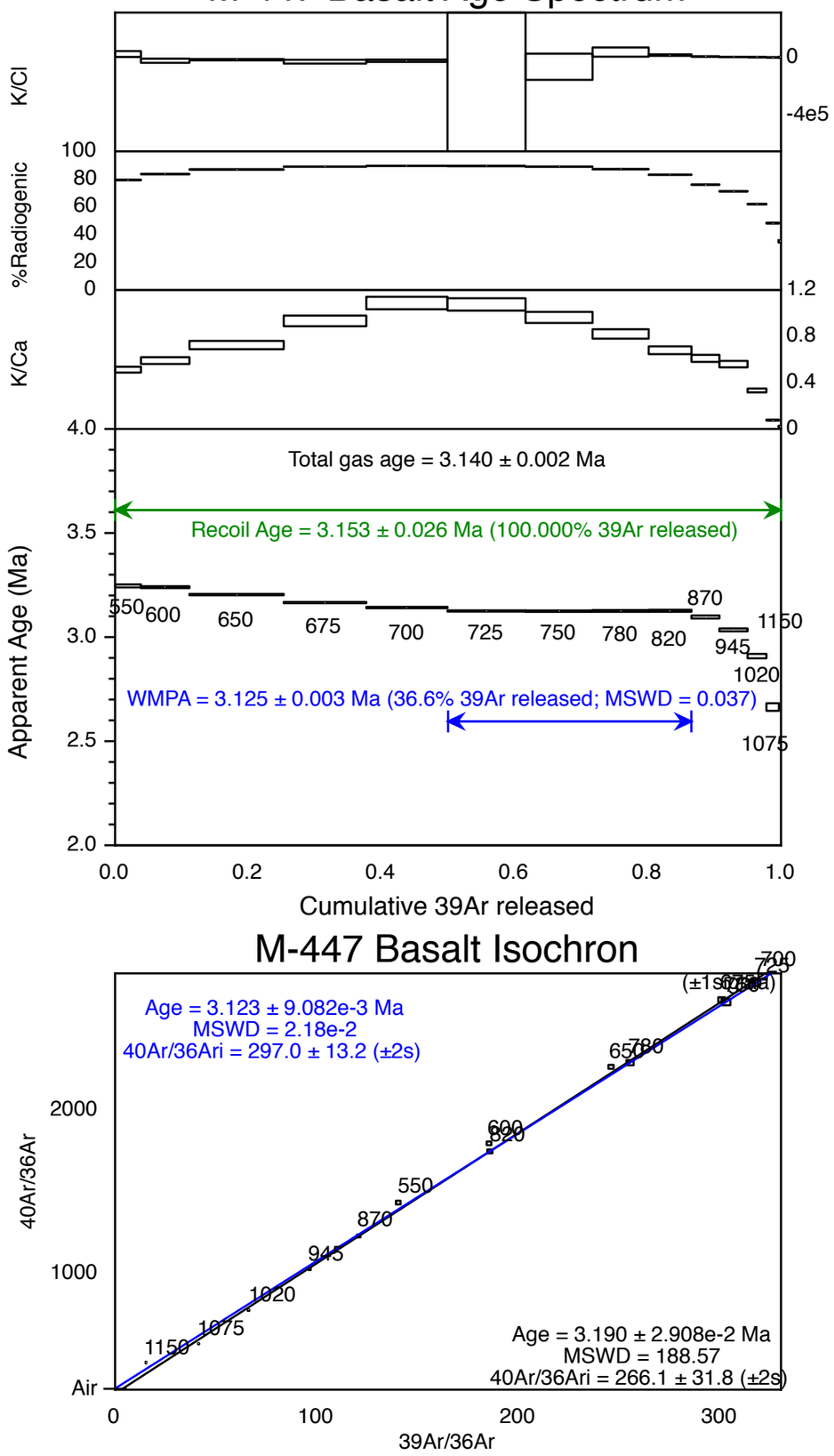


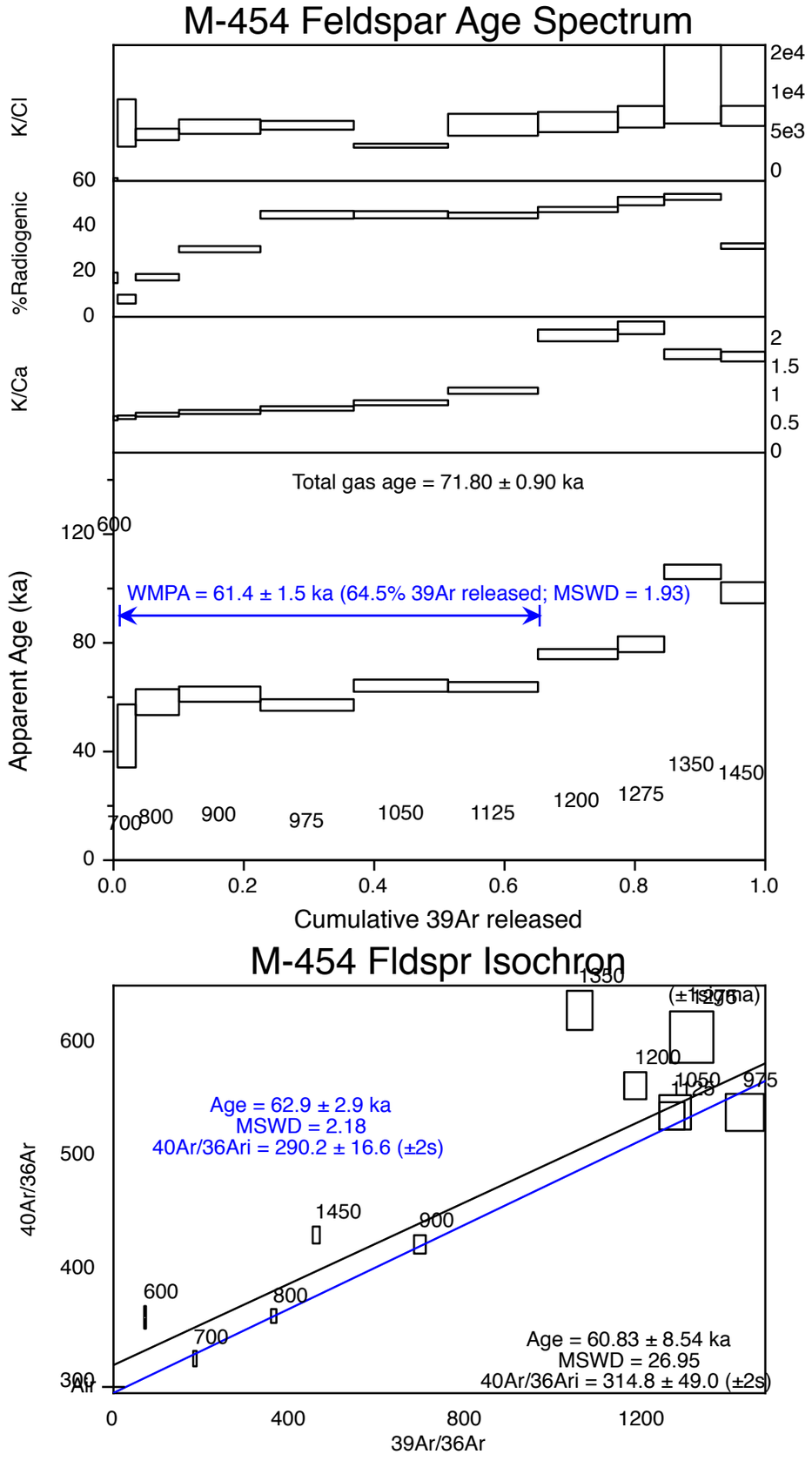
M-434 Sanidine Age Spectrum

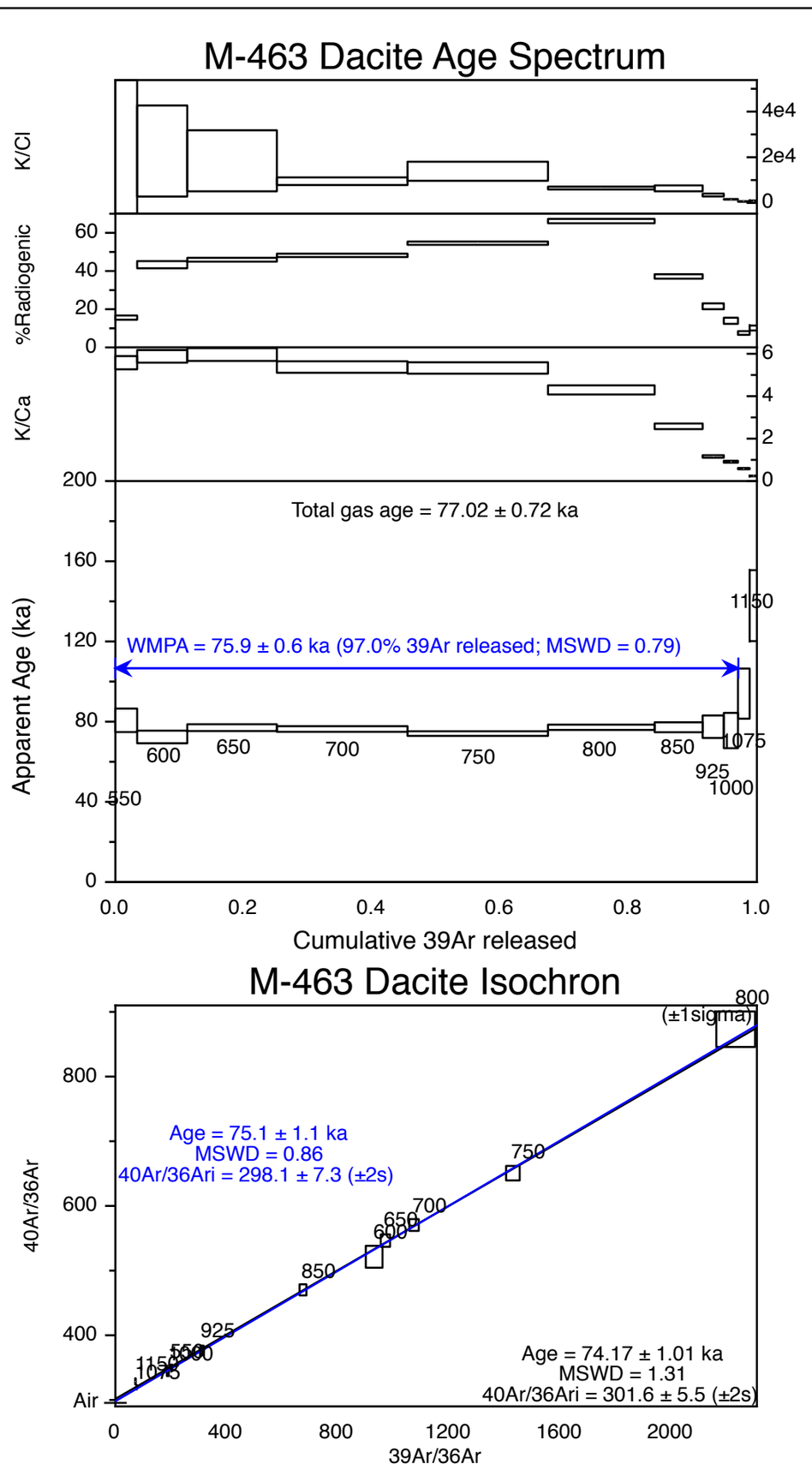


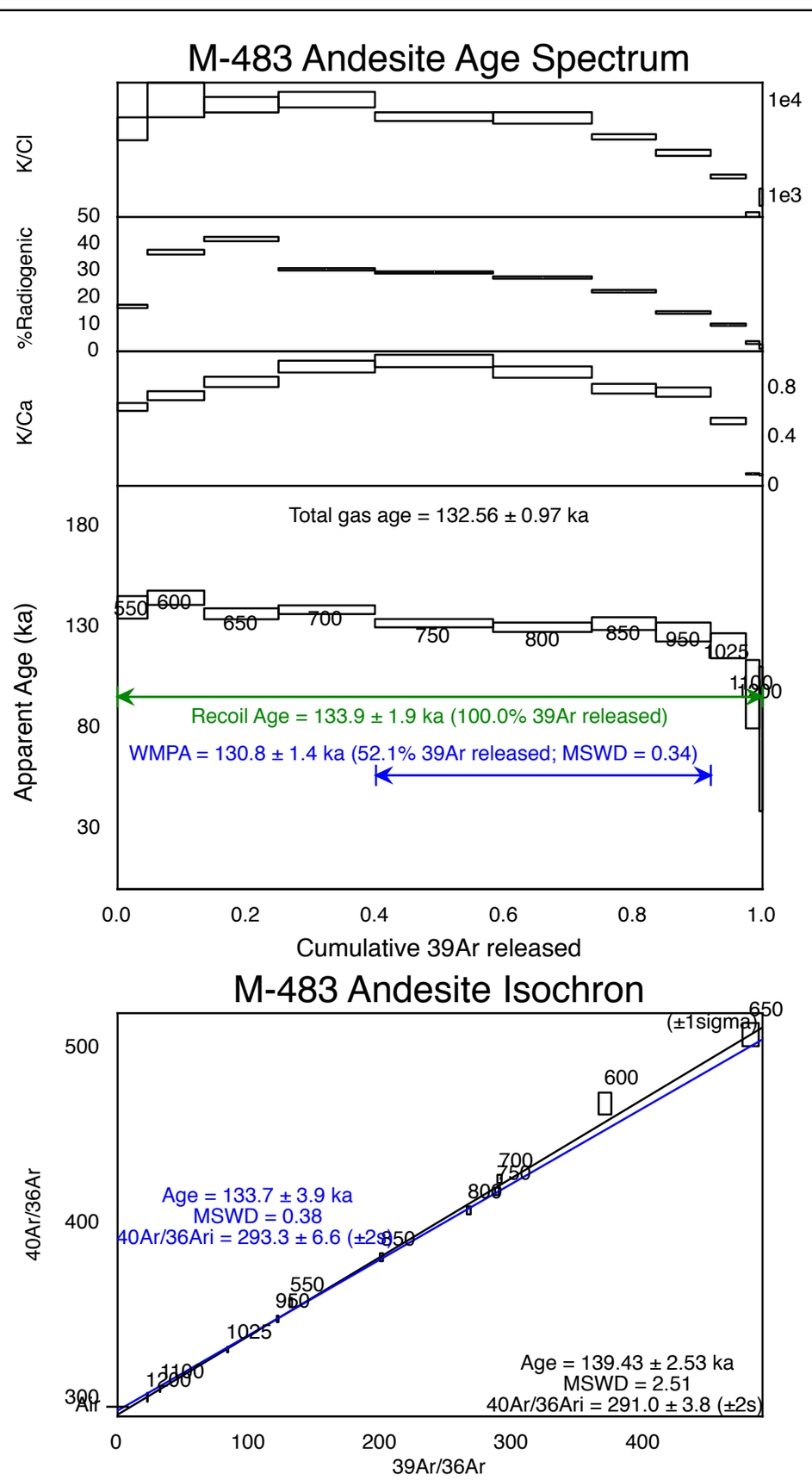
M-434 Sanidine Isochron

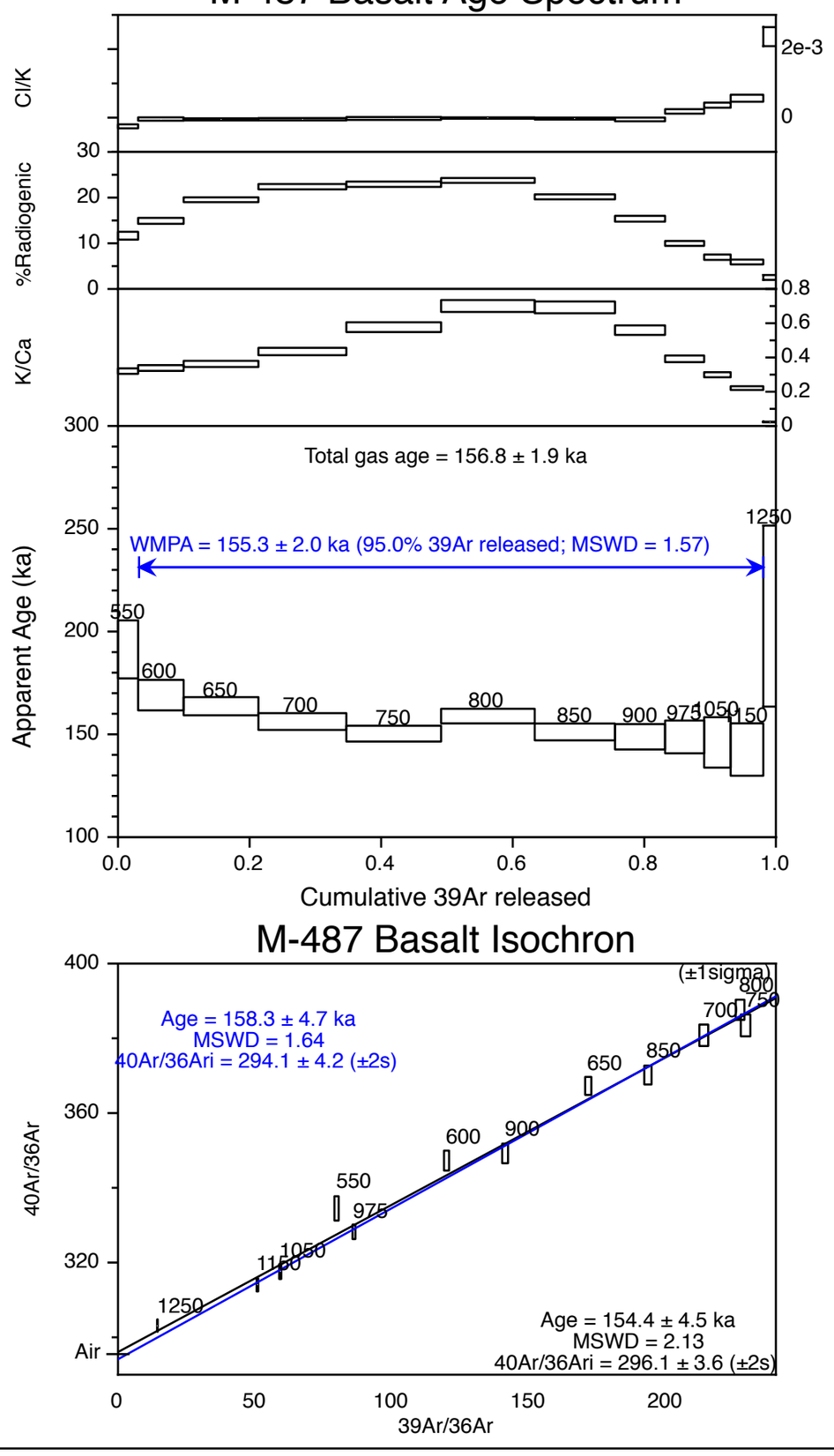


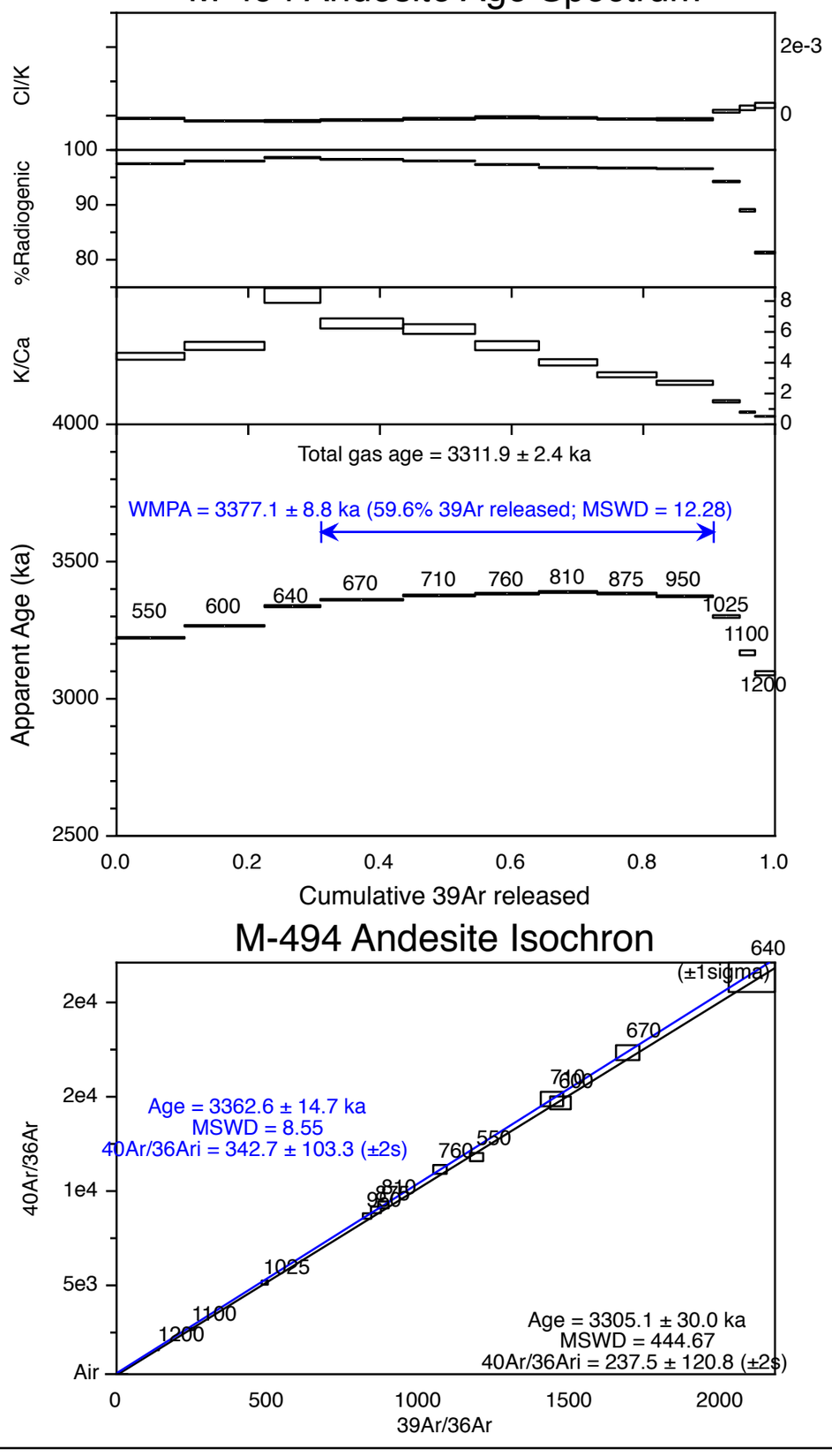

M-447 Basalt Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (Ma)
Total gas age = 3.140 ± 0.002 Ma
Recoil Age = 3.153 ± 0.026 Ma (100.000% 39Ar released)
WMPA = 3.125 ± 0.003 Ma (36.6% 39Ar released; MSWD = 0.037)
Cumulative 39Ar released
M-447 Basalt Isochron
Age = 3.123 ± 9.082e-3 Ma
MSWD = 2.18e-2
40Ar/36Ari = 297.0 ± 13.2 (±2s)
Age = 3.190 ± 2.908e-2 Ma
MSWD = 188.57
40Ar/36Ari = 266.1 ± 31.8 (±2s)
40Ar/36Ar
39Ar/36Ar

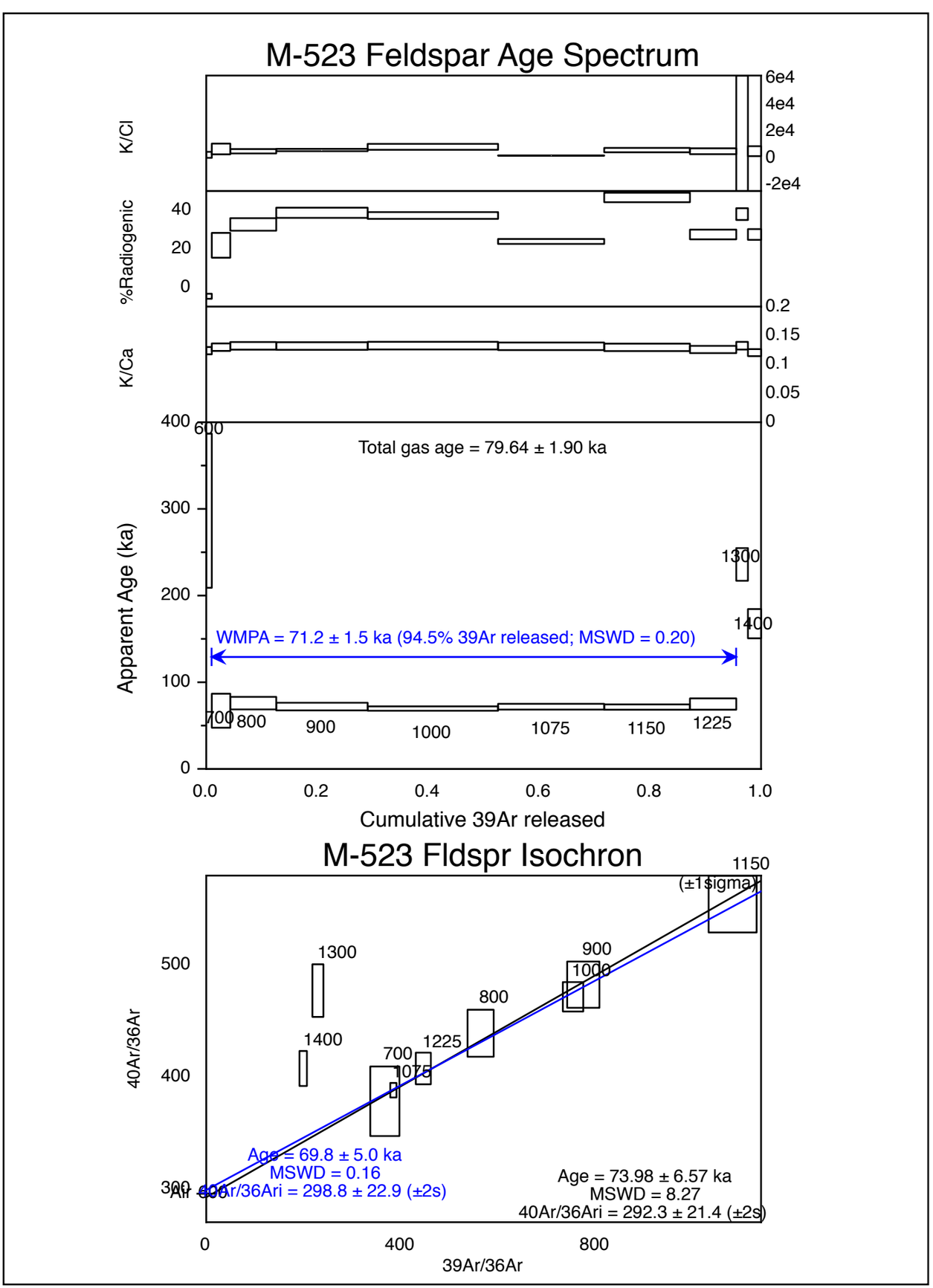

M-454 Feldspar Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 71.80 ± 0.90 ka
WMPA = 61.4 ± 1.5 ka (64.5% 39Ar released; MSWD = 1.93)
Cumulative 39Ar released
M-454 Fldspr Isochron
Age = 62.9 ± 2.9 ka
MSWD = 2.18
40Ar/36Ari = 290.2 ± 16.6 (±2s)
Age = 60.83 ± 8.54 ka
MSWD = 26.95
40Ar/36Ari = 314.8 ± 49.0 (±2s)
40Ar/36Ar
39Ar/36Ar

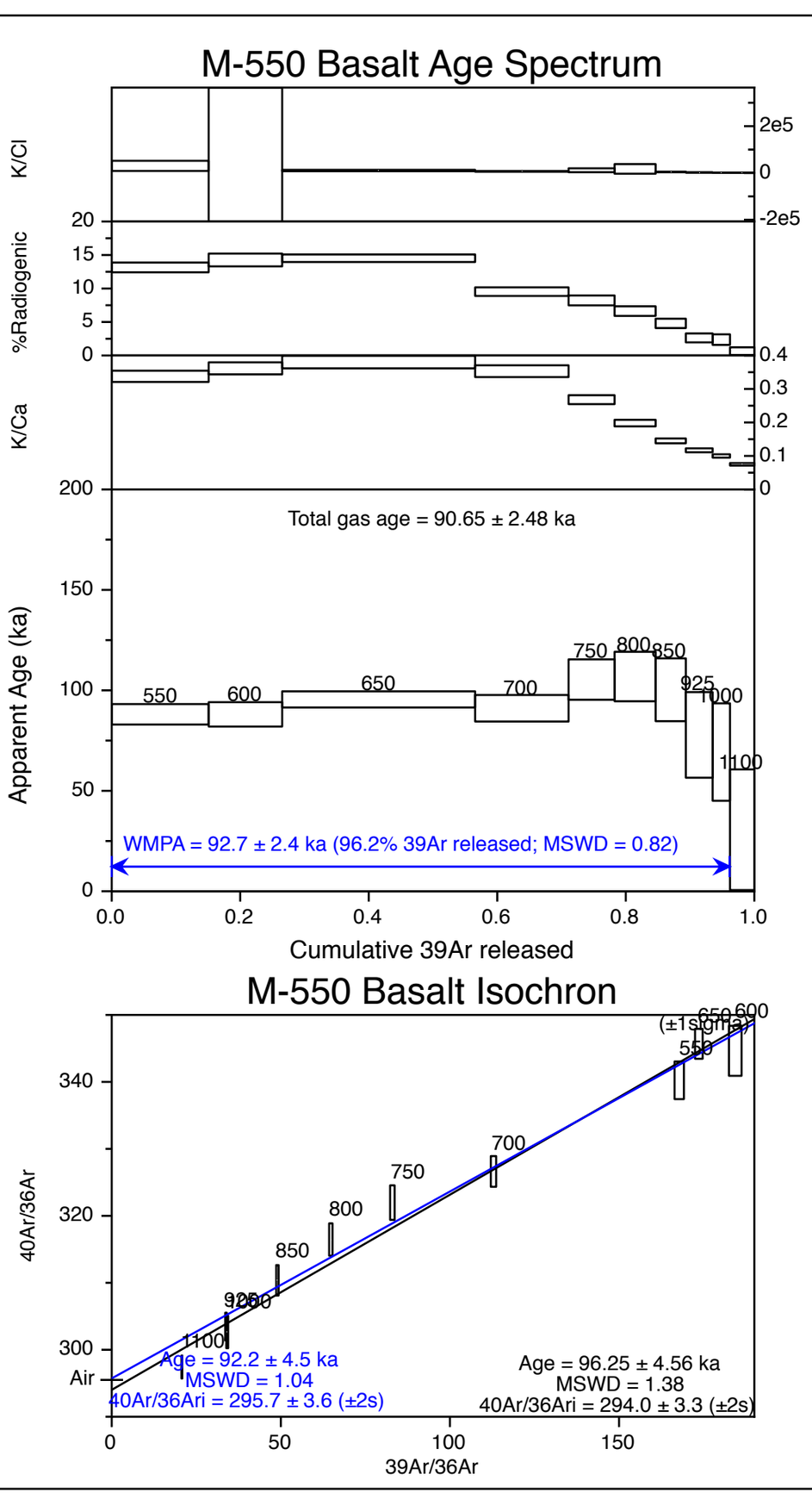

M-463 Dacite Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 77.02 ± 0.72 ka
WMPA = 75.9 ± 0.6 ka (97.0% 39Ar released; MSWD = 0.79)
Cumulative 39Ar released
M-463 Dacite Isochron
Age = 75.1 ± 1.1 ka
MSWD = 0.86
40Ar/36Ari = 298.1 ± 7.3 (±2s)
Age = 74.17 ± 1.01 ka
MSWD = 1.31
40Ar/36Ari = 301.6 ± 5.5 (±2s)
40Ar/36Ar
39Ar/36Ar


M-483 Andesite Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 132.56 ± 0.97 ka
Recoil Age = 133.9 ± 1.9 ka (100.0% 39Ar released)
WMPA = 130.8 ± 1.4 ka (52.1% 39Ar released; MSWD = 0.34)
Cumulative 39Ar released
M-483 Andesite Isochron
Age = 133.7 ± 3.9 ka
MSWD = 0.38
40Ar/36Ari = 293.3 ± 6.6 (±2s)
Age = 139.43 ± 2.53 ka
MSWD = 2.51
40Ar/36Ari = 291.0 ± 3.8 (±2s)
40Ar/36Ar
39Ar/36Ar

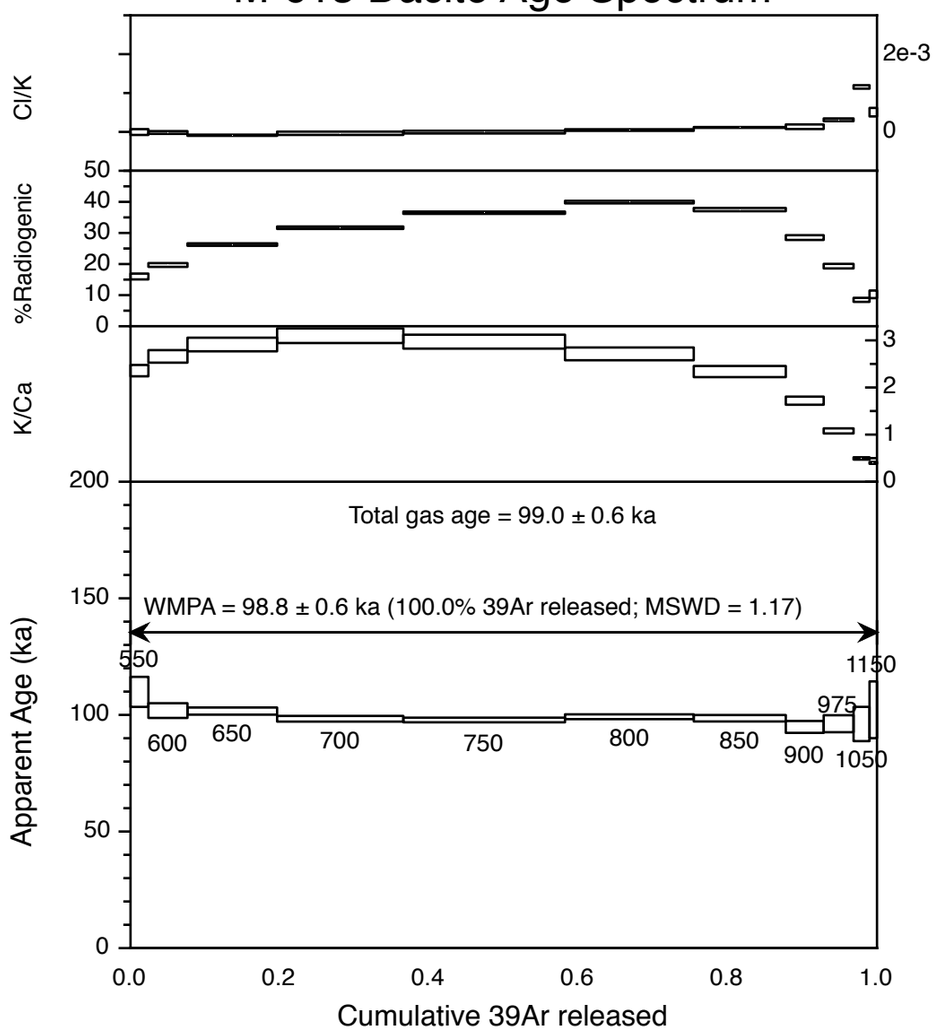

M-487 Basalt Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 156.8 ± 1.9 ka
WMPA = 155.3 ± 2.0 ka (95.0% 39Ar released; MSWD = 1.57)
Cumulative 39Ar released
M-487 Basalt Isochron
(±1sigma)
Age = 158.3 ± 4.7 ka
MSWD = 1.64
40Ar/36Ari = 294.1 ± 4.2 (±2s)
Age = 154.4 ± 4.5 ka
MSWD = 2.13
40Ar/36Ari = 296.1 ± 3.6 (±2s)
40Ar/36Ar
39Ar/36Ar


M-494 Andesite Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 3311.9 ± 2.4 ka
WMPA = 3377.1 ± 8.8 ka (59.6% 39Ar released; MSWD = 12.28)
Cumulative 39Ar released
M-494 Andesite Isochron
(±1sigma)
Age = 3362.6 ± 14.7 ka
MSWD = 8.55
40Ar/36Ari = 342.7 ± 103.3 (±2s)
Age = 3305.1 ± 30.0 ka
MSWD = 444.67
40Ar/36Ari = 237.5 ± 120.8 (±2s)
40Ar/36Ar
39Ar/36Ar

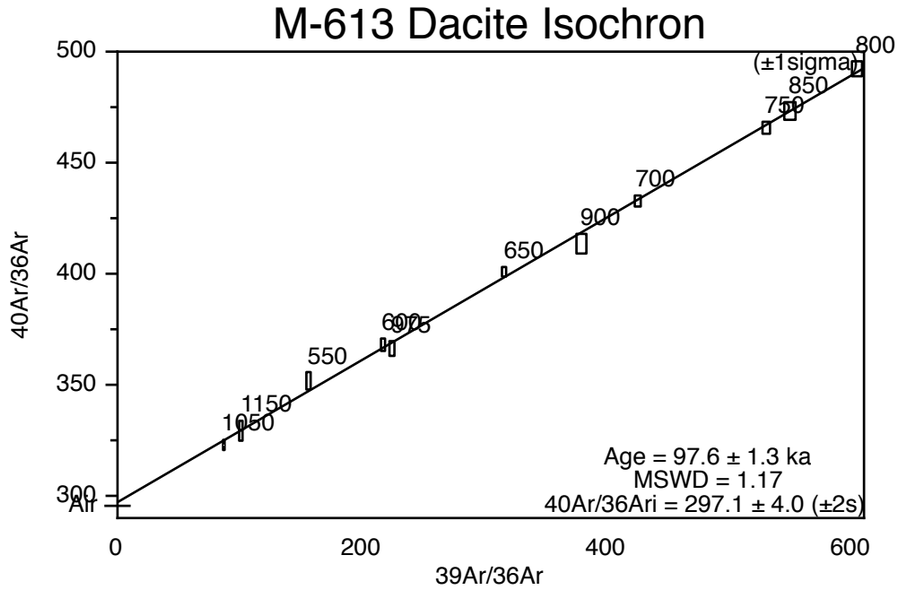

M-523 Feldspar Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 79.64 ± 1.90 ka
WMPA = 71.2 ± 1.5 ka (94.5% 39Ar released; MSWD = 0.20)
Cumulative 39Ar released
M-523 Fldspr Isochron
(±1sigma)
Age = 69.8 ± 5.0 ka
MSWD = 0.16
40Ar/36Ari = 298.8 ± 22.9 (±2s)
Age = 73.98 ± 6.57 ka
MSWD = 8.27
40Ar/36Ari = 292.3 ± 21.4 (±2s)
40Ar/36Ar
39Ar/36Ar


M-550 Basalt Age Spectrum
K/Cl
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 90.65 ± 2.48 ka
WMPA = 92.7 ± 2.4 ka (96.2% 39Ar released; MSWD = 0.82)
Cumulative 39Ar released
M-550 Basalt Isochron
(±1sigma)
Age = 92.2 ± 4.5 ka
MSWD = 1.04
40Ar/36Ari = 295.7 ± 3.6 (±2s)
Age = 96.25 ± 4.56 ka
MSWD = 1.38
40Ar/36Ari = 294.0 ± 3.3 (±2s)
40Ar/36Ar
39Ar/36Ar

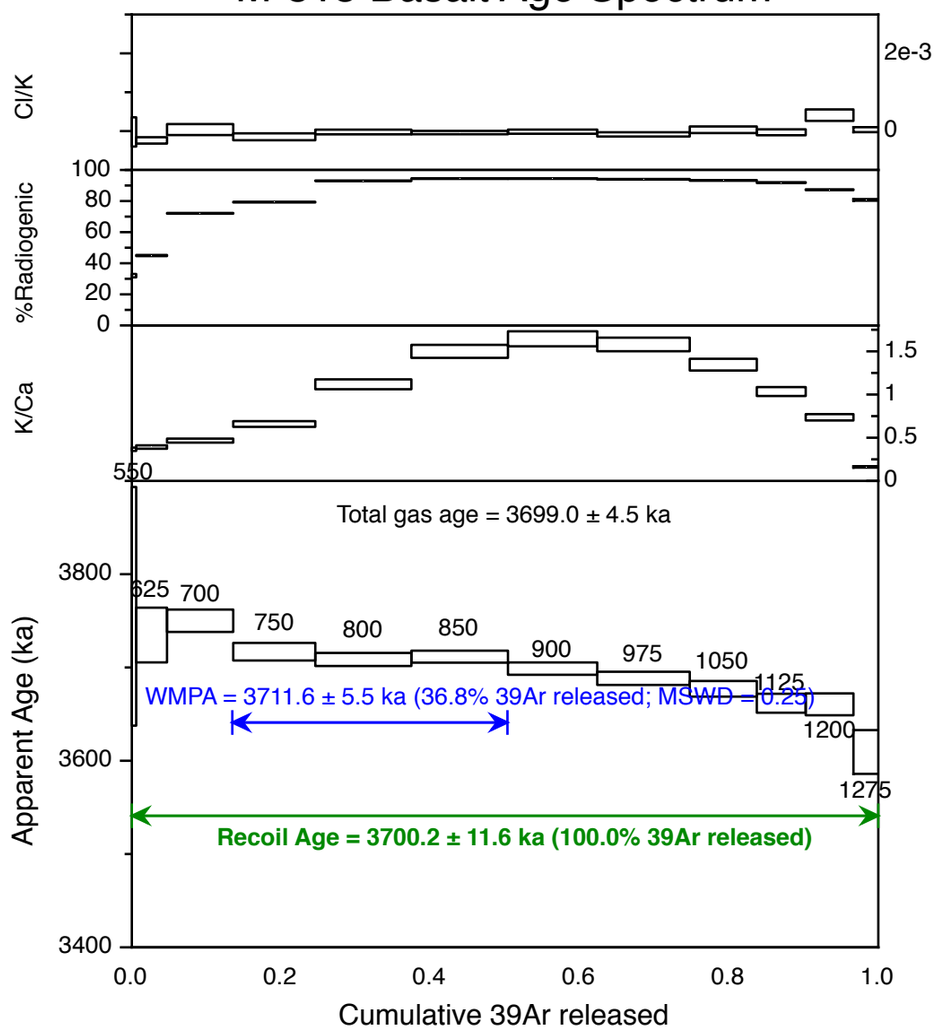
M-613 Dacite Age Spectrum



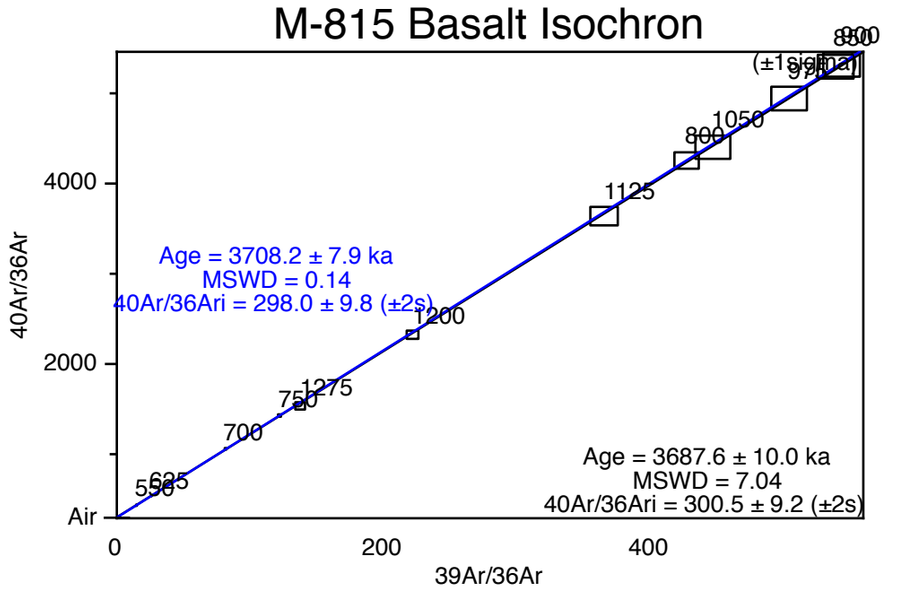
M-613 Dacite Isochron



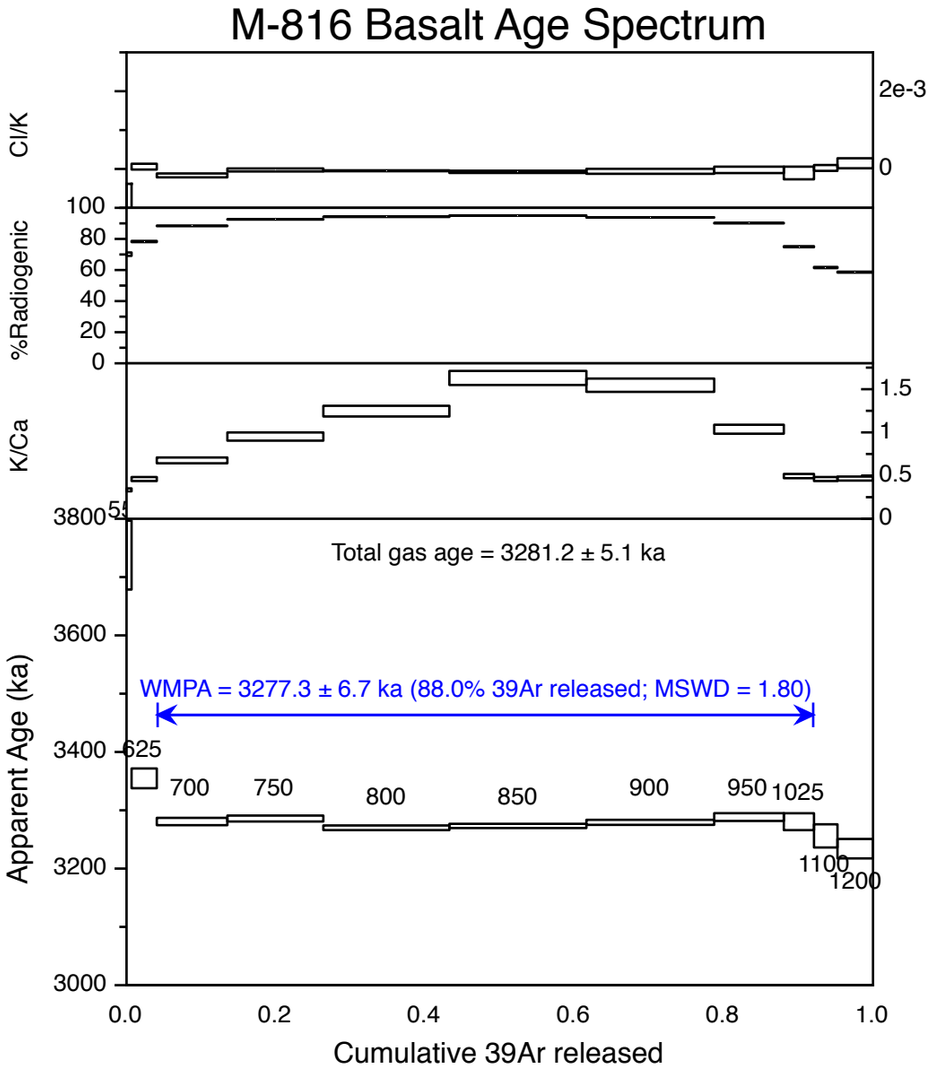
M-815 Basalt Age Spectrum



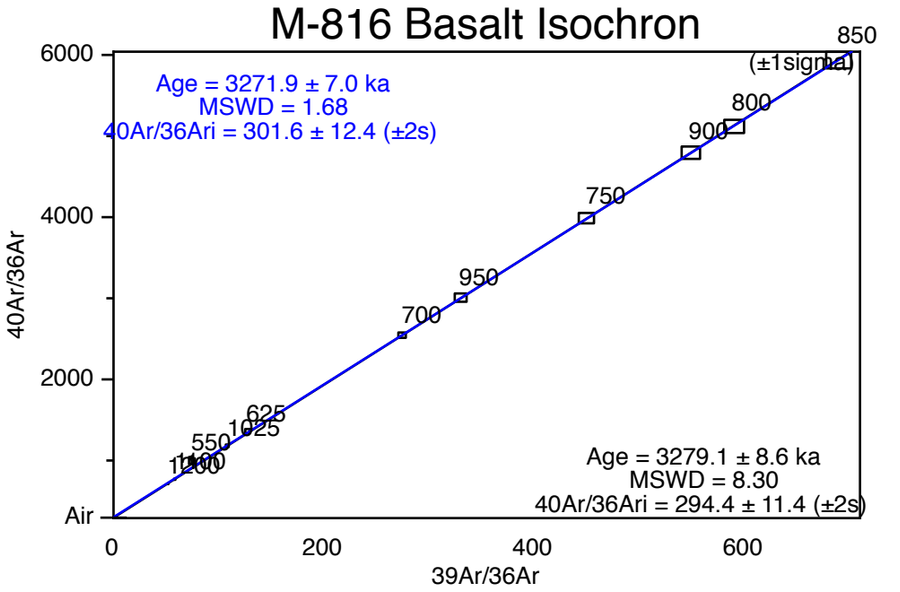
M-815 Basalt Isochron



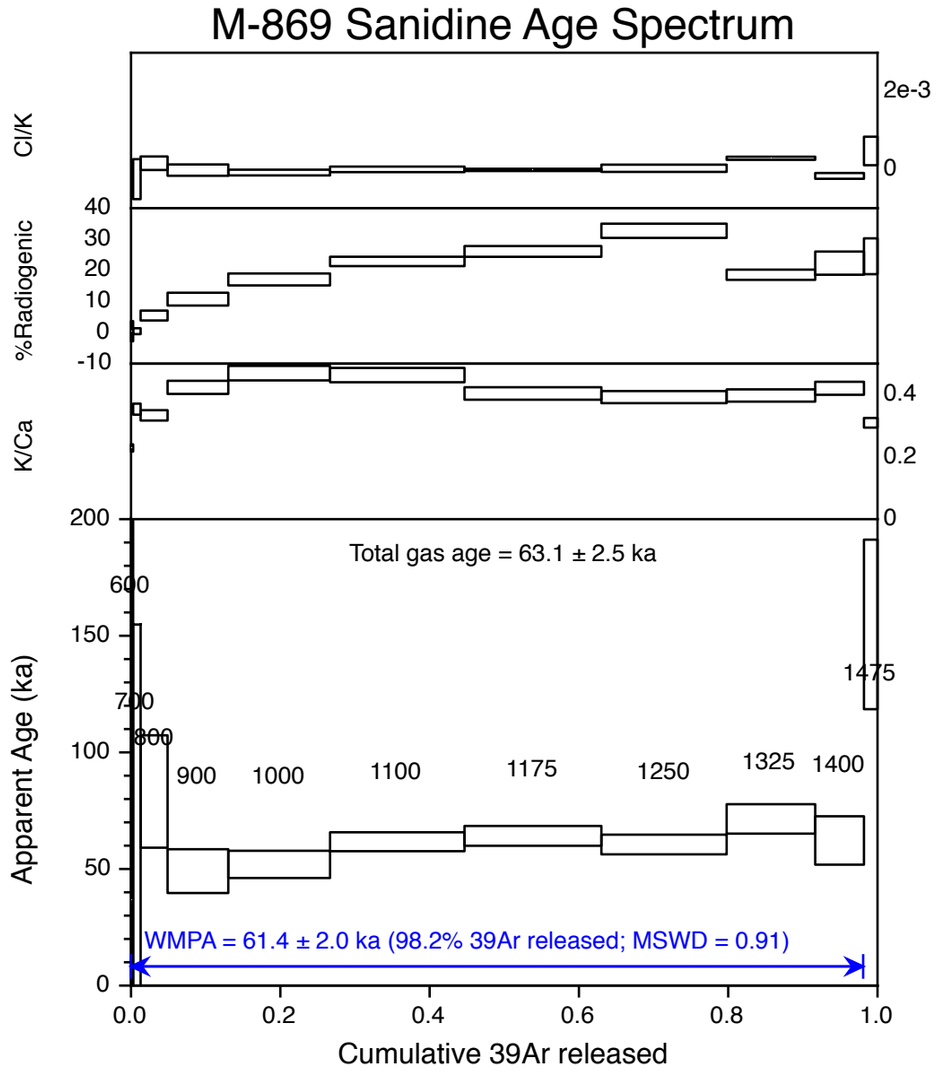
M-816 Basalt Age Spectrum



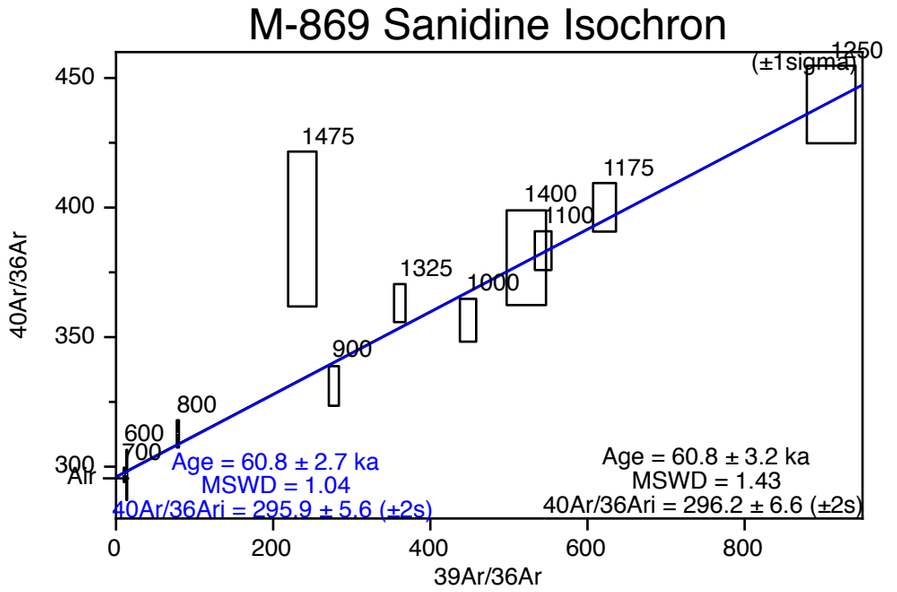
M-816 Basalt Isochron

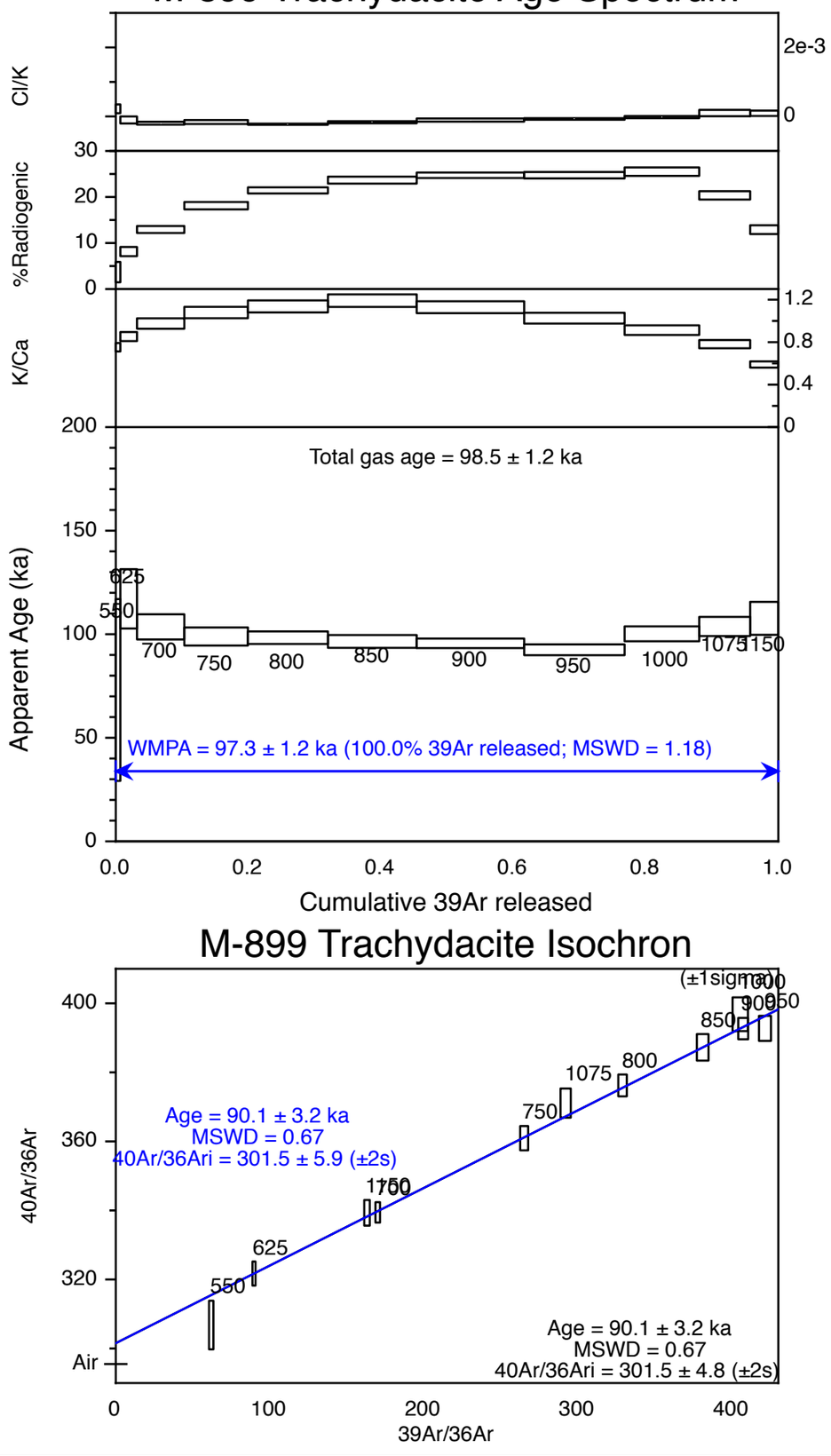


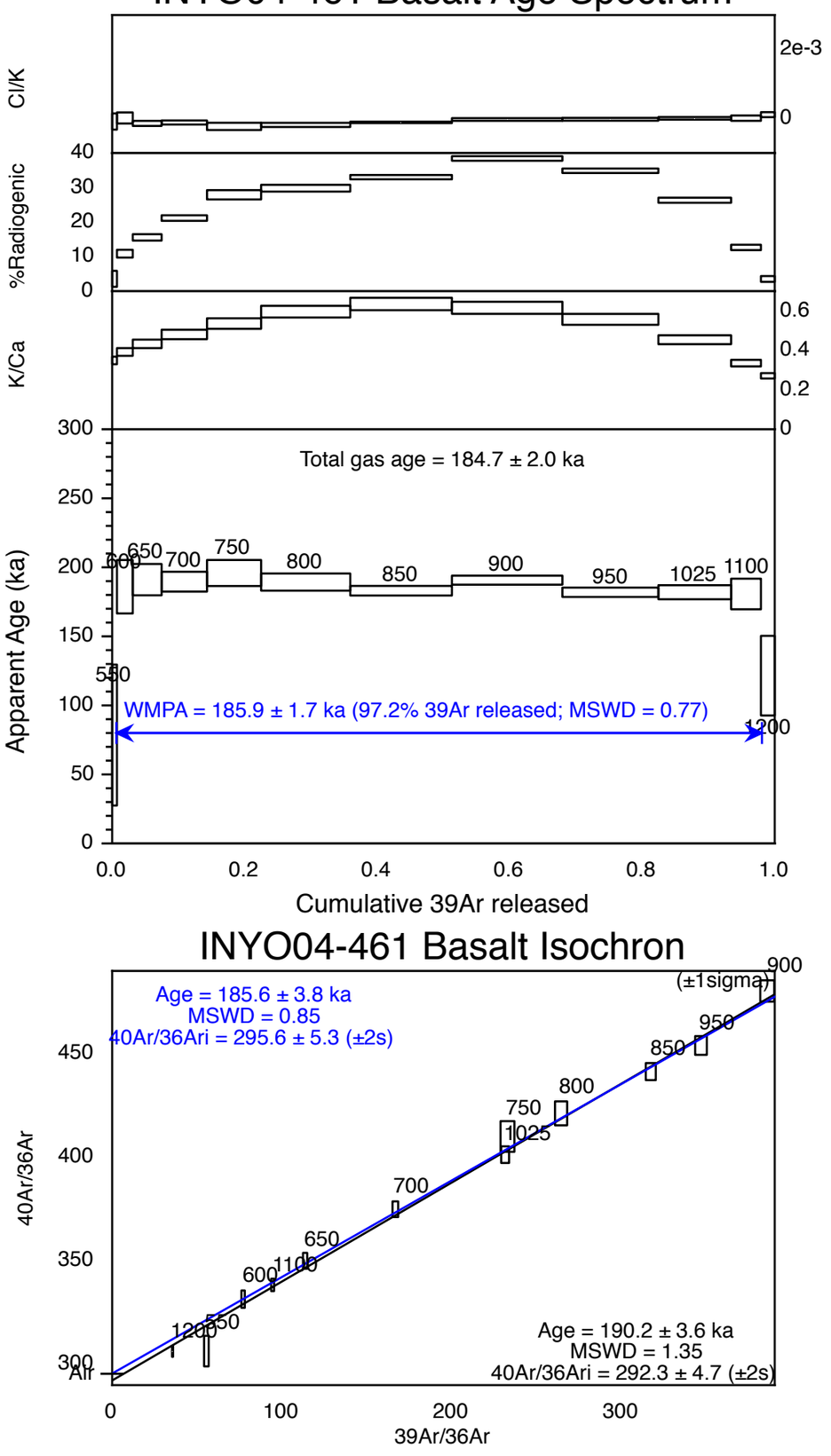
M-869 Sanidine Age Spectrum

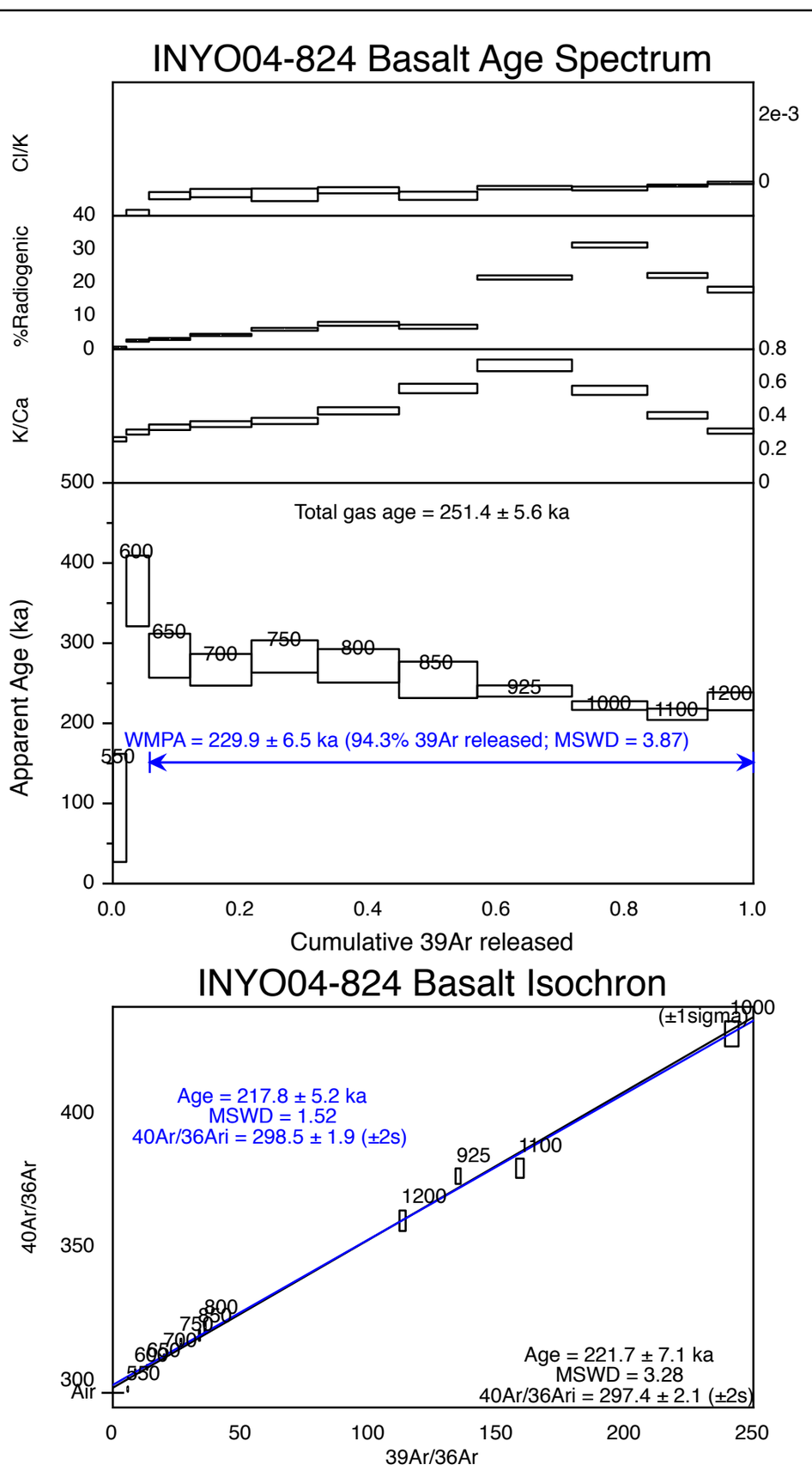


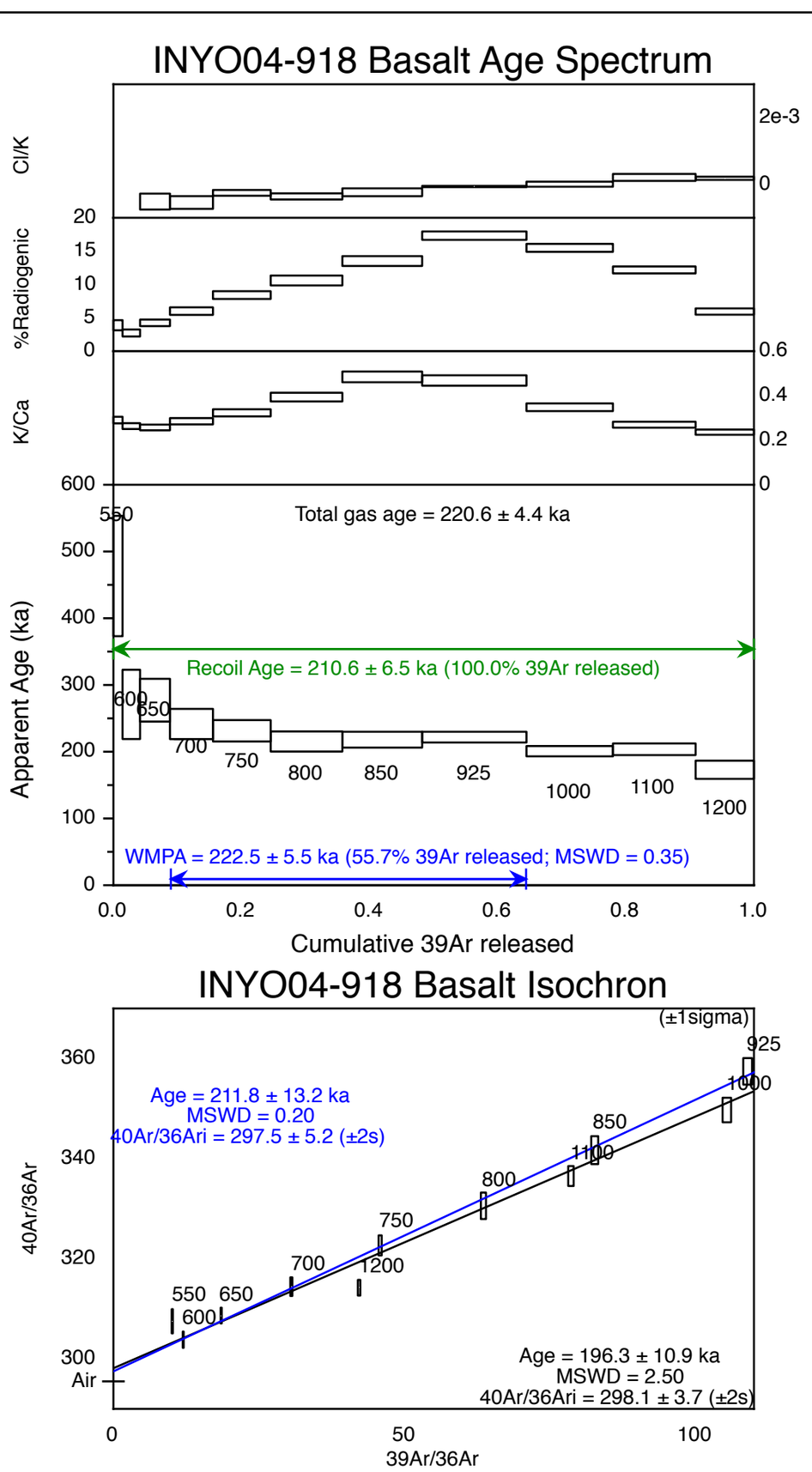
M-869 Sanidine Isochron



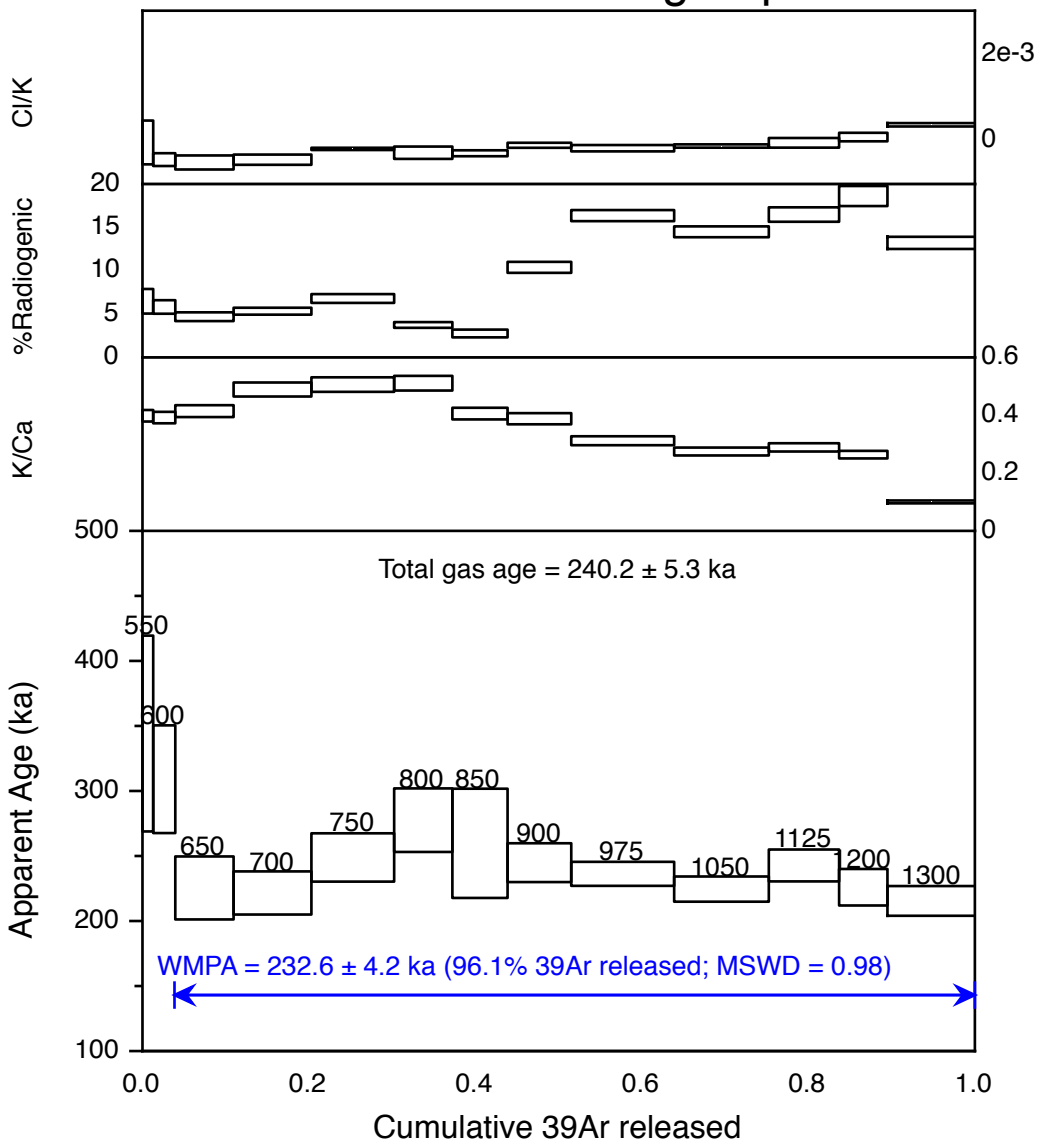

M-899 Trachydacite Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 98.5 ± 1.2 ka
WMPA = 97.3 ± 1.2 ka (100.0% 39Ar released; MSWD = 1.18)
Cumulative 39Ar released
M-899 Trachydacite Isochron
Age = 90.1 ± 3.2 ka
MSWD = 0.67
40Ar/36Ari = 301.5 ± 5.9 (±2s)
Age = 90.1 ± 3.2 ka
MSWD = 0.67
40Ar/36Ari = 301.5 ± 4.8 (±2s)
(±1sigma)
40Ar/36Ar
39Ar/36Ar


INYO04-461 Basalt Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 184.7 ± 2.0 ka
WMPA = 185.9 ± 1.7 ka (97.2% 39Ar released; MSWD = 0.77)
Cumulative 39Ar released
INYO04-461 Basalt Isochron
Age = 185.6 ± 3.8 ka
MSWD = 0.85
40Ar/36Ari = 295.6 ± 5.3 (±2s)
Age = 190.2 ± 3.6 ka
MSWD = 1.35
40Ar/36Ari = 292.3 ± 4.7 (±2s)
(±1sigma)
40Ar/36Ar
39Ar/36Ar

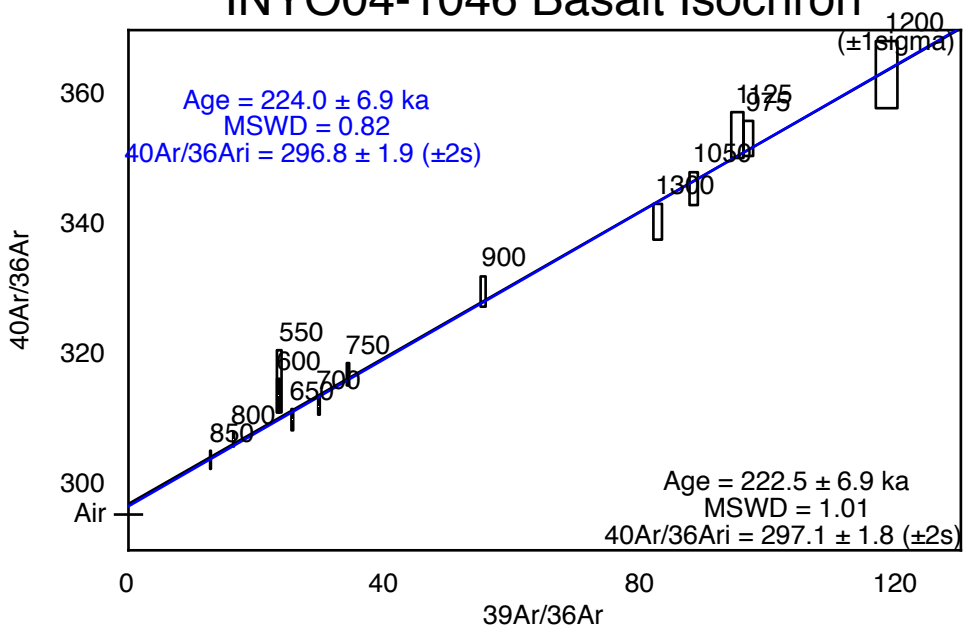

INYO04-824 Basalt Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 251.4 ± 5.6 ka
WMPA = 229.9 ± 6.5 ka (94.3% 39Ar released; MSWD = 3.87)
Cumulative 39Ar released
INYO04-824 Basalt Isochron
Age = 217.8 ± 5.2 ka
MSWD = 1.52
40Ar/36Ari = 298.5 ± 1.9 (±2s)
Age = 221.7 ± 7.1 ka
MSWD = 3.28
40Ar/36Ari = 297.4 ± 2.1 (±2s)
(±1sigma)
40Ar/36Ar
39Ar/36Ar


INYO04-918 Basalt Age Spectrum
Cl/K
%Radiogenic
K/Ca
Apparent Age (ka)
Total gas age = 220.6 ± 4.4 ka
Recoil Age = 210.6 ± 6.5 ka (100.0% 39Ar released)
WMPA = 222.5 ± 5.5 ka (55.7% 39Ar released; MSWD = 0.35)
Cumulative 39Ar released
INYO04-918 Basalt Isochron
Age = 211.8 ± 13.2 ka
MSWD = 0.20
40Ar/36Ari = 297.5 ± 5.2 (±2s)
Age = 196.3 ± 10.9 ka
MSWD = 2.50
40Ar/36Ari = 298.1 ± 3.7 (±2s)
(±1sigma)
40Ar/36Ar
39Ar/36Ar

INYO04-1046 Basalt Age Spectrum



INYO04-1046 Basalt Isochron



Mammoth Mountain tabulated $^{40}Ar/^{39}Ar$ results

M-123 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	-67.7±37.8	-2.06	0.3	26202	-2.17E-16	0.01	0.382266±0.000841	0.042676±0.000087	0.000801±0.000022	0.074048±0.000695	0.001341±0.000014
600	-30.7±25.7	-1.44	0.31	4431	-1.77E-16	0.02	0.448187±0.001160	0.076761±0.000155	0.001345±0.000038	0.128543±0.000776	0.001575±0.000017
650	-16.4±10.2	-1.09	0.33	7434	-3.12E-16	0.07	1.039683±0.002340	0.252744±0.000507	0.004048±0.000057	0.405315±0.001810	0.003671±0.000020
700	4.5±6.9	0.49	0.36	15029	1.23E-16	0.13	0.912804±0.002087	0.364460±0.000731	0.005345±0.000060	0.532664±0.001838	0.003224±0.000020
750	13.3±5.0	1.74	0.4	13749	5.50E-16	0.23	1.149868±0.002402	0.552925±0.001109	0.007965±0.000070	0.724888±0.002561	0.004027±0.000022
800	15.9±3.4	2.54	0.46	-422276	1.08E-15	0.39	1.550326±0.003203	0.909199±0.001824	0.012582±0.000090	1.035514±0.002127	0.005404±0.000022
850	17.8±3.0	3.11	0.53	23355	1.49E-15	0.58	1.743722±0.003589	1.114948±0.002236	0.015538±0.000079	1.113312±0.002748	0.006030±0.000023
900	11.8±3.6	1.91	0.5	14209	8.44E-16	0.75	1.609267±0.003321	0.952081±0.001910	0.013468±0.000079	0.994246±0.002317	0.005621±0.000026
950	15.2±5.1	1.8	0.43	6190	6.67E-16	0.86	1.351874±0.002754	0.584635±0.001173	0.008728±0.000063	0.713541±0.002056	0.004693±0.000022
1000	0.7±8.4	0.05	0.39	7322	1.78E-17	0.92	1.235925±0.002523	0.360957±0.000724	0.005614±0.000051	0.480647±0.001531	0.004315±0.000024
1050	-35.9±11.6	-1.92	0.4	3456	-6.70E-16	0.96	1.283971±0.002619	0.250914±0.000504	0.004351±0.000052	0.326740±0.001265	0.004520±0.000022
1100	-102.7±20.4	-2.71	0.39	3902	-1.61E-15	1	2.176241±0.004403	0.210566±0.000423	0.004341±0.000060	0.283130±0.000972	0.007644±0.000030

Packet IRR279-RO, Experiment #10Z0134, 0.1755 g Basalt, all errors ±1 sigma
J = 0.000202697±4.05E-07

40Ar* is radiogenic argon, isotopes in volts (2.72e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.437 ± 0.135, Calculated K2O = 1.68%wt., Calculated CaO = 4.72%wt., Calculated Cl = 0.2ppm

Total Gas Age = 4.2 ± 1.6 ka

Weighted Mean Plateau Age = 15.5 ± 1.8 ka (±1 sigma, including ±J), 62.8% 39Ar released
Weighted Mean Plateau Age = 15.5 ± 1.8 ka (A priori, including ±J), 62.8% 39Ar released
Weighted Mean Plateau Age = 15.5 ± 1.8 ka (A priori, without ±J)
MSWD = 0.55 (Good fit, MSWD < 3.12)
Steps 4 of 12 (800,850,900,950°C)

Isochron Age = 19.8 ± 11.6 ka (±1 sigma, including ±J)
Isochron Age = 19.8 ± 11.6 ka (A Priori Errors, including ±J)
Isochron Age = 19.8 ± 26.3 ka (95% confidence, including ±J)
MSWD = 0.98 (Good fit, MSWD < 3.69)
40Ar/36Ar intercept = 293.4 ± 5.5 (±1 sigma)
40Ar/36Ar intercept = 293.4 ± 5.5 (A Priori)
40Ar/36Ar intercept = 293.4 ± 12.5 (95% confidence)
Steps 4 of 12 (800,850,900,950°C)

M-124 Andesite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	188.1±23.6	2.79	0.24	10161	1.36E-15	0.02	2.122315±0.000944	0.121501±0.000161	0.002959±0.000039	0.268002±0.000472	0.007057±0.000025
550	194.0±24.6	2.89	0.24	8856	1.42E-15	0.05	2.130388±0.000944	0.122641±0.000155	0.002986±0.000040	0.269712±0.000472	0.007076±0.000026
580	217.1±20.2	4.99	0.25	8310	1.73E-15	0.07	1.504331±0.000673	0.133621±0.000122	0.002735±0.000038	0.277870±0.001156	0.004914±0.000023
610	206.0±13.1	7.41	0.28	10073	2.41E-15	0.11	1.425011±0.000500	0.198002±0.000173	0.003529±0.000086	0.370305±0.001548	0.004568±0.000022
650	202.0±9.3	10.25	0.31	28285	3.36E-15	0.16	1.426071±0.000690	0.279333±0.000222	0.004533±0.000057	0.471799±0.000985	0.004463±0.000023
700	181.5±6.5	12.08	0.35	20085	4.53E-15	0.24	1.641598±0.000532	0.421817±0.000249	0.006560±0.000058	0.631997±0.001507	0.005060±0.000024
750	180.5±4.5	14.25	0.41	139314	6.01E-15	0.34	1.832311±0.000581	0.558489±0.000364	0.008366±0.000068	0.720680±0.000936	0.005518±0.000021
800	183.3±4.4	15.72	0.46	115091	6.76E-15	0.46	1.867469±0.000680	0.618286±0.000289	0.009159±0.000093	0.701202±0.000801	0.005521±0.000023
850	173.0±3.9	15.04	0.51	-155925	7.44E-15	0.6	2.148367±0.000847	0.721020±0.000390	0.010626±0.000033	0.747742±0.002068	0.006384±0.000024
900	174.0±4.3	13.67	0.53	25247	6.77E-15	0.72	2.151157±0.000674	0.652202±0.000339	0.009871±0.000092	0.651241±0.002720	0.006466±0.000024
950	171.7±6.6	10.05	0.54	13691	4.68E-15	0.81	2.023041±0.000518	0.457004±0.000280	0.007310±0.000058	0.442674±0.001203	0.006281±0.000026
1000	130.7±9.3	4.18	0.59	5620	2.42E-15	0.86	2.517821±0.000769	0.310970±0.000199	0.005856±0.000079	0.276726±0.000373	0.008241±0.000025
1075	100.9±14.6	1.97	0.71	2568	1.72E-15	0.92	3.783745±0.001353	0.285596±0.000296	0.006581±0.000068	0.210150±0.000502	0.012610±0.000036
1150	119.0±15.4	1.75	0.63	2686	2.15E-15	0.98	5.381857±0.002196	0.304741±0.000233	0.007842±0.000058	0.253421±0.000730	0.017965±0.000040
1200	198.9±26.9	1.72	0.25	1061	1.55E-15	1	3.934871±0.001184	0.131788±0.000166	0.004717±0.000067	0.273592±0.000674	0.013163±0.000031

Packet IRR310-LC, Experiment #12Z0301, 0.1484 g Andesite, all errors ±1 sigma
J = 0.000213807±2.74E-07

40Ar* is radiogenic argon, isotopes in volts (2.28e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.424 ± 0.109, Calculated K2O = 1.48%wt., Calculated CaO = 4.27%wt., Calculated Cl = 0.2ppm

Total Gas Age = 171.6 ± 2.2 ka

Weighted Mean Plateau Age = 177.2 ± 2.0 ka (±1 sigma, including ±J), 64.5% 39Ar released
Weighted Mean Plateau Age = 177.2 ± 1.9 ka (A priori, including ±J), 64.5% 39Ar released
Weighted Mean Plateau Age = 177.2 ± 1.9 ka (A priori, without ±J)
MSWD = 1.08 (Good fit, MSWD < 2.56)
Steps 6 of 15 (700,750,800,850,900,950°C)

Isochron Age = 182.1 ± 14.8 ka (±1 sigma, including ±J)
Isochron Age = 182.1 ± 12.9 ka (A Priori Errors, including ±J)
Isochron Age = 182.1 ± 32.2 ka (95% confidence, including ±J)
MSWD = 1.31 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 294.2 ± 3.9 (±1 sigma)
40Ar/36Ar intercept = 294.2 ± 3.4 (A Priori)
40Ar/36Ar intercept = 294.2 ± 8.6 (95% confidence)
Steps 6 of 15 (700,750,800,850,900,950°C

M-173 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	102.8±12.8	12	0.41	-15654	7.03E-16	0.03	0.256621±0.000236	0.109742±0.000148	0.001558±0.000038	0.140969±0.001024	0.000804±0.000013
600	112.6±8.4	16.25	0.47	-9208	1.14E-15	0.08	0.304224±0.000222	0.160954±0.000186	0.002205±0.000049	0.181149±0.001463	0.000913±0.000012

650	98.5±4.0	18.2	0.56	-8363	2.34E-15	0.18	0.559321±0.000266	0.378743±0.000329	0.005080±0.000079	0.352044±0.002244	0.001647±0.000014
700	107.6±3.8	23.54	0.7	-6099	3.10E-15	0.31	0.572221±0.000307	0.458744±0.000313	0.005990±0.000079	0.343160±0.000804	0.001577±0.000016
750	102.0±2.9	23.81	0.83	-8808	3.45E-15	0.46	0.629362±0.000346	0.537977±0.000408	0.007118±0.000084	0.338049±0.001459	0.001718±0.000014
800	99.8±3.4	23.91	0.79	-7217	2.89E-15	0.59	0.525197±0.000301	0.461034±0.000231	0.006044±0.000056	0.306515±0.001493	0.001439±0.000014
850	106.5±3.0	23.59	0.83	-7897	3.79E-15	0.75	0.697550±0.000292	0.565973±0.000351	0.007475±0.000065	0.356041±0.001815	0.001904±0.000016
925	104.4±4.2	16.7	0.54	-29600	3.08E-15	0.88	0.802291±0.000395	0.470298±0.000313	0.006545±0.000065	0.456602±0.001223	0.002390±0.000018
1000	77.1±8.6	6.57	0.28	10598	1.11E-15	0.94	0.732403±0.000390	0.228583±0.000198	0.003539±0.000034	0.424937±0.002621	0.002435±0.000018
1075	81.6±15.7	4.19	0.19	4695	6.62E-16	0.98	0.685635±0.000361	0.129179±0.000140	0.002239±0.000033	0.363053±0.000518	0.002325±0.000019
1150	53.4±20.2	2.15	0.16	2437	2.58E-16	1	0.520598±0.000276	0.077092±0.000089	0.001476±0.000027	0.245480±0.001296	0.001793±0.000014

Packet IRR307-KB, Experiment #12Z0241_288.34, 0.0901 g Basalt, all errors ±1 sigma
J = 0.0002029982406±1.49E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.535 ± 0.170, Calculated K2O = 1.73%wt., Calculated CaO = 3.97%wt., Calculated Cl = -0.2ppm

Total Gas Age = 100.2 ± 1.5 ka

Weighted Mean Plateau Age = 103.5 ± 1.4 ka (±1 sigma, including ±J), 87.9% 39Ar released
Weighted Mean Plateau Age = 103.5 ± 1.4 ka (A priori, including ±J), 87.9% 39Ar released
Weighted Mean Plateau Age = 103.5 ± 1.4 ka (A priori, without ±J)
MSWD = 0.90 (Good fit, MSWD < 2.29)
Steps 8 of 11 (550,600,650,700,750,800,850,925°C)

Isochron Age = 100.7 ± 6.5 ka (±1 sigma, including ±J)
Isochron Age = 100.7 ± 6.4 ka (A Priori Errors, including ±J)
Isochron Age = 100.7 ± 15.0 ka (95% confidence, including ±J)
MSWD = 1.02 (Good fit, MSWD < 2.40)
40Ar/36Ar intercept = 297.6 ± 5.0 (±1 sigma)
40Ar/36Ar intercept = 297.6 ± 4.9 (A Priori)
40Ar/36Ar intercept = 297.6 ± 11.4 (95% confidence)
Steps 8 of 11 (550,600,650,700,750,800,850,925°C)

M-181 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	93.3±7.9	9.03	0.3	6044882	1.49E-15	0.05	0.598725±0.001249	0.165020±0.000331	0.002459±0.000029	0.288202±0.002546	0.001924±0.000014
600	92.0±5.7	17.83	0.34	13475	3.07E-15	0.16	0.626209±0.002117	0.345367±0.000693	0.004858±0.000070	0.534326±0.002374	0.001892±0.000022
650	99.5±4.8	20.74	0.42	9110	3.83E-15	0.28	0.671155±0.002207	0.398479±0.000800	0.005624±0.000051	0.495721±0.001614	0.001939±0.000021
700	94.8±4.5	17.11	0.49	6149	3.85E-15	0.41	0.817946±0.002499	0.420391±0.000844	0.006101±0.000041	0.451328±0.002128	0.002421±0.000020
750	97.3±6.3	15.31	0.45	7525	3.02E-15	0.51	0.718588±0.002301	0.321956±0.000646	0.004689±0.000038	0.373188±0.002244	0.002164±0.000022
800	82.3±8.4	10	0.32	5865	2.04E-15	0.58	0.741690±0.002347	0.256483±0.000515	0.003895±0.000051	0.418877±0.001469	0.002377±0.000024
850	85.2±11.4	5.07	0.22	5502	1.40E-15	0.64	1.002240±0.002186	0.169831±0.000343	0.002913±0.000031	0.409365±0.001580	0.003335±0.000020
925	68.4±14.8	3.01	0.17	4509	1.14E-15	0.69	1.376097±0.002934	0.172497±0.000349	0.003224±0.000039	0.529080±0.004074	0.004665±0.000025
1000	70.3±11.8	3.33	0.17	2746	1.48E-15	0.76	1.611829±0.003405	0.217981±0.000440	0.004125±0.000046	0.671036±0.003391	0.005461±0.000024
1075	71.9±20.0	2.07	0.15	925	1.16E-15	0.81	2.031004±0.004243	0.167049±0.000338	0.004179±0.000040	0.598731±0.001621	0.006899±0.000031
1175	83.9±15.1	2.31	0.05	2380	5.10E-15	1	8.043783±0.016268	0.634789±0.001277	0.014386±0.000073	7.281673±0.014923	0.028638±0.000061

Packet IRR281-SR, Experiment #10Z0204, 0.2077 g Basalt, all errors ±1 sigma
J = 0.000157642±3.15E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.05%wt., Calculated CaO = 9.08%wt., Calculated Cl = 0.3ppm

Total Gas Age = 87.5 ± 3.1 ka

Weighted Mean Plateau Age = 92.4 ± 2.5 ka (±1 sigma, including ±J), 100.0% 39Ar released
Weighted Mean Plateau Age = 92.4 ± 2.2 ka (A priori, without ±J)
MSWD = 1.23 (Good fit, MSWD < 2.05)
Steps 11 of 11 (550,600,650,700,750,800,850,925,1000,1075,1175°C)

Isochron Age = 98.447 ± 3.088 ka (±1 sigma, including ±J)
Isochron Age = 98.447 ± 3.088 ka (A Priori Errors, including ±J)
Isochron Age = 98.447 ± 7.109 ka (95% confidence, including ±J)
MSWD = 0.72 (Good fit, MSWD < 2.11)
40Ar/36Ar intercept = 293.1 ± 0.8 (±1 sigma)
40Ar/36Ar intercept = 293.1 ± 0.8 (A Priori)
40Ar/36Ar intercept = 293.1 ± 1.9 (95% confidence)
Steps 11 of 11 (550,600,650,700,750,800,850,925,1000,1075,1175°C)

M-182 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	272.28±55.34	6.01	0.3	6121	6.55E-16	0.01	0.396799±0.000865	0.031257±0.000064	0.000658±0.000022	0.055314±0.000587	0.001278±0.000016
650	177.66±5.05	20.34	0.32	-43490	5.80E-15	0.13	1.037036±0.002144	0.423549±0.000850	0.005906±0.000053	0.689054±0.001418	0.002989±0.000017
700	174.12±4.03	27.67	0.32	35192	8.01E-15	0.3	1.062967±0.002196	0.602551±0.001209	0.008278±0.000064	0.979560±0.002012	0.002877±0.000020
750	168.55±3.58	32.26	0.37	91805	8.03E-15	0.47	0.905809±0.002065	0.618303±0.001241	0.008334±0.000059	0.871745±0.002420	0.002322±0.000018
790	168.94±3.36	29.63	0.47	22205	7.40E-15	0.63	0.909528±0.001872	0.568798±0.001141	0.007793±0.000072	0.632956±0.002670	0.002344±0.000015
860	174.70±7.87	26.47	0.53	14646	2.52E-15	0.68	0.347170±0.000772	0.187531±0.000377	0.002616±0.000028	0.184936±0.000712	0.000916±0.000013
900	175.53±6.57	21.44	0.49	31896	3.70E-15	0.76	0.627768±0.001332	0.273454±0.000550	0.003848±0.000035	0.291243±0.000811	0.001751±0.000016
950	158.22±7.41	16.47	0.44	12761	2.92E-15	0.83	0.644454±0.001365	0.239196±0.000481	0.003482±0.000048	0.287352±0.001027	0.001903±0.000015
1000	157.47±10.29	10.44	0.39	6191	2.65E-15	0.89	0.923159±0.001922	0.218389±0.000439	0.003470±0.000055	0.291754±0.000746	0.002880±0.000018
1050	152.46±9.98	9.99	0.35	6322	2.39E-15	0.95	0.869993±0.001816	0.203438±0.000409	0.003239±0.000031	0.307249±0.001516	0.002736±0.000016
1100	146.77±11.70	8.14	0.3	3750	2.20E-15	1	0.983477±0.002042	0.194637±0.000392	0.003288±0.000048	0.334588±0.001179	0.003151±0.000018

Packet IRR279-RP, Experiment #10Z0133mod, 0.1765 g Basalt, all errors ±1 sigma
J = 0.000197519±3.95E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.08%wt., Calculated CaO = 3.48%wt., Calculated Cl = 7.0e-2ppm

Total Gas Age = 168.9 ± 1.7 ka

Weighted Mean Plateau Age = 171.8 ± 1.8 ka (±1 sigma, including ±J), 75.1% 39Ar released
Weighted Mean Plateau Age = 171.8 ± 1.8 ka (A priori, without ±J)
MSWD = 0.74 (Good fit, MSWD < 2.56)
Steps 6 of 11 (650,700,750,790,860,900°C)

Isochron Age = 159.259 ± 7.118 ka (±1 sigma, including ±J)
Isochron Age = 159.259 ± 7.118 ka (A Priori Errors, including ±J)
Isochron Age = 159.259 ± 16.400 ka (95% confidence, including ±J)
MSWD = 0.17 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 303.5 ± 4.4 (±1 sigma)
40Ar/36Ar intercept = 303.5 ± 4.4 (A Priori)
40Ar/36Ar intercept = 303.5 ± 10.1 (95% confidence)
Steps 6 of 11 (650,700,750,790,860,900°C)

39Ar Weighted Age = 170.3 ± 1.8 ka, 100.0% 39Ar released; weighted by fractional 39Ar and inverse errors; errors gas totals
39Ar Weighted Age = 170.3 ± 1.7 ka, 100.0% 39Ar released; weighted by fractional 39Ar and inverse errors; errors frac39 and inverse errors
Recoil Age = 170.3 ± 10.3 ka (± standard error of the mean, no analytical errors included), 100.0% 39Ar released
Recoil Age = 170.3 ± 2.5 ka (±1 sigma, fractional 39Ar TGA error * MSWD), 100.0% 39Ar released
Recoil Age = 170.3 ± 2.3 ka (±1 sigma, fractional 39Ar and inverse errors * MSWD), 100.0% 39Ar released
MSWD = 1.92 (Good fit, MSWD < 2.05)
Steps 11 of 11 (550,650,700,750,790,860,900,950,1000,1050,1100°C)

M-185 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	3809.2±7.3	94.17	1.06	3926	4.97E-14	0.06	2.293946±0.000757	0.177279±0.000195	0.002585±0.000089	0.087964±0.000261	0.000477±0.000011
600	3774.7±4.0	95.92	1.29	7962	1.12E-13	0.2	5.054848±0.001469	0.401532±0.000281	0.005570±0.000059	0.162894±0.000577	0.000742±0.000012
625	3760.3±4.1	96.98	1.64	26021	1.01E-13	0.33	4.525056±0.001375	0.364789±0.000279	0.004891±0.000069	0.116678±0.000994	0.000494±0.000010
655	3750.0±4.0	96.84	1.62	241193	9.47E-14	0.45	4.282934±0.001141	0.345719±0.000252	0.004589±0.000087	0.111997±0.000499	0.000488±0.000010
695	3753.8±4.1	95.88	1.29	18955	9.36E-14	0.56	4.238451±0.001047	0.338405±0.000236	0.004589±0.000132	0.137522±0.000312	0.000629±0.000011
745	3750.3±6.8	92.1	0.82	-10983	5.63E-14	0.63	2.653952±0.000783	0.203760±0.000177	0.002705±0.000130	0.130491±0.000864	0.000746±0.000013
795	3759.7±12.8	85.19	0.49	40948	2.43E-14	0.67	1.239434±0.000446	0.087835±0.000139	0.001269±0.000031	0.093310±0.000391	0.000647±0.000011
850	3699.6±23.3	75.94	0.38	-45532	1.20E-14	0.68	0.688752±0.000323	0.044227±0.000089	0.000677±0.000017	0.061061±0.000974	0.000578±0.000011
900	3694.2±24.9	80.41	0.4	4712	1.22E-14	0.7	0.658713±0.000247	0.044849±0.000088	0.000707±0.000029	0.058900±0.000423	0.000453±0.000012
975	3681.1±16.2	83.12	0.35	3329	1.99E-14	0.72	1.037252±0.000478	0.073272±0.000128	0.001160±0.000059	0.110917±0.000552	0.000623±0.000012
1050	3624.2±7.7	84.58	0.26	1883	5.84E-14	0.8	3.000177±0.001042	0.219125±0.000153	0.003651±0.000039	0.449932±0.002318	0.001692±0.000017
1100	3660.2±4.2	93.02	0.15	6020	1.51E-13	0.99	7.029017±0.002345	0.559675±0.000313	0.008030±0.000040	1.965213±0.003030	0.002210±0.000016
1150	3702.1±36.5	84.09	0.11	3770	6.74E-15	1	0.348198±0.000284	0.024796±0.000061	0.000388±0.000039	0.113346±0.000296	0.000219±0.000009

Packet IRR298-DY, Experiment #12z0011, 0.0781 g Basalt, all errors ±1 sigma
J = 0.0001734018667±3.00894E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.88%wt., Calculated CaO = 5.49%wt., Calculated Cl = 0.3ppm

Total Gas Age = 3728.4 ± 6.7 ka

Weighted Mean Plateau Age = 3754.4 ± 6.9 ka (±1 sigma, including ±J), 46.4% 39Ar released
Weighted Mean Plateau Age = 3754.4 ± 6.9 ka (A priori, including ±J), 46.4% 39Ar released
Weighted Mean Plateau Age = 3754.4 ± 2.2 ka (A priori, without ±J)
MSWD = 0.96 (Good fit, MSWD < 2.77)
Steps 5 of 13 (625,655,695,745,795°C)

Isochron Age = 3754.3 ± 8.0 ka (±1 sigma, including ±J)
Isochron Age = 3754.3 ± 7.7 ka (A Priori Errors, including ±J)
Isochron Age = 3754.3 ± 12.3 ka (95% confidence, including ±J)
MSWD = 1.26 (Good fit, MSWD < 3.12)
40Ar/36Ar intercept = 295.3 ± 7.0 (±1 sigma)
40Ar/36Ar intercept = 295.3 ± 6.3 (A Priori)
40Ar/36Ar intercept = 295.3 ± 15.6 (95% confidence)
Steps 5 of 13 (625,655,695,745,795°C)

M-219 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	203.9±35.1	2.34	0.32	2119	4.84E-15	0.05	7.543414±0.015098	0.314888±0.000633	0.009331±0.000085	0.507915±0.002103	0.025074±0.000053
575	201.4±24.2	3.67	0.32	3741	4.33E-15	0.1	4.297629±0.008719	0.284941±0.000572	0.006596±0.000073	0.470491±0.002392	0.014142±0.000040
600	178.9±15.3	5.22	0.33	5994	4.30E-15	0.16	2.996773±0.006118	0.318385±0.000639	0.006102±0.000059	0.501474±0.001756	0.009753±0.000029
630	181.1±11.7	7.78	0.39	5501	5.29E-15	0.23	2.475865±0.005076	0.387017±0.000777	0.006701±0.000038	0.524476±0.001560	0.007874±0.000031
660	178.2±8.3	9.79	0.46	6417	6.81E-15	0.31	2.532014±0.005189	0.506283±0.001016	0.008262±0.000058	0.581203±0.002143	0.007893±0.000026
700	168.1±7.1	10.93	0.53	6210	8.46E-15	0.43	2.818791±0.005742	0.666989±0.001338	0.010582±0.000090	0.656232±0.001796	0.008681±0.000030
750	177.0±6.0	12.49	0.53	6768	1.25E-14	0.59	3.634165±0.007373	0.933897±0.001874	0.014552±0.000086	0.929749±0.002802	0.011023±0.000031
800	168.4±7.1	10.37	0.46	5719	1.04E-14	0.73	3.644629±0.007394	0.817155±0.001640	0.013137±0.000062	0.937482±0.002627	0.011318±0.000034
850	145.0±12.5	5.27	0.38	4614	5.73E-15	0.82	3.951102±0.008007	0.523447±0.001051	0.009556±0.000068	0.725151±0.002433	0.012869±0.000040
900	39.3±27.8	0.63	0.37	3439	9.28E-16	0.87	5.335277±0.010879	0.312958±0.000632	0.007751±0.000057	0.449295±0.003161	0.018067±0.000050
950	50.9±41.1	0.51	0.43	2752	1.16E-15	0.93	8.225606±0.016659	0.301318±0.000609	0.009503±0.000070	0.368024±0.001593	0.027797±0.000061
975	80.8±49.6	0.69	0.42	1983	1.20E-15	0.96	6.305471±0.012819	0.197406±0.000401	0.006915±0.000085	0.248333±0.002483	0.021260±0.000052
1000	261.2±54.1	2.35	0.31	2557	1.71E-15	0.98	2.657813±0.005524	0.086974±0.000179	0.002902±0.000055	0.148134±0.001496	0.008825±0.000030
1040	235.8±59.0	1.92	0.18	1275	1.55E-15	0.99	2.929567±0.006067	0.087152±0.000179	0.003229±0.000051	0.250134±0.001377	0.009793±0.000032
1100	313.1±85.6	1.95	0.05	355	1.30E-15	1	2.452387±0.005113	0.055975±0.000117	0.002921±0.000040	0.603480±0.002428	0.008307±0.000033

Packet IRR281-SS, Experiment #10Z0209, 0.1749 g Basalt, all errors ±1 sigma
J = 0.000201622±4.03E-07

40Ar* is radiogenic argon, isotopes in volts (2.72e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.74%wt., Calculated CaO = 5.53%wt., Calculated Cl = 0.5ppm

Total Gas Age = 161.2 ± 3.4 ka

Weighted Mean Plateau Age = 174.6 ± 3.2 ka (±1 sigma, including ±J), 73.0% 39Ar released
Weighted Mean Plateau Age = 174.6 ± 3.2 ka (A priori, without ±J)
MSWD = 0.61 (Good fit, MSWD < 2.29)
Steps 8 of 15 (550,575,600,630,660,700,750,800°C)

Isochron Age = 166.188 ± 5.135 ka (±1 sigma, including ±J)
Isochron Age = 166.188 ± 5.135 ka (A Priori Errors, including ±J)
Isochron Age = 166.188 ± 11.171 ka (95% confidence, including ±J)
MSWD = 0.56 (Good fit, MSWD < 2.40)
40Ar/36Ar intercept = 297.0 ± 0.8 (±1 sigma)
40Ar/36Ar intercept = 297.0 ± 0.8 (A Priori)
40Ar/36Ar intercept = 297.0 ± 1.7 (95% confidence)
Steps 8 of 15 (550,575,600,630,660,700,750,800°C)

M-225 Sanidine

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	-159.6±217.1	-3.65	-11.76	-858	-3.71E-16	0	0.068659±0.000164	0.006163±0.000028	0.000095±0.000026	-0.000275±0.000365	0.000241±0.000012
700	-7.1±41.6	-0.29	31.65	-2091	-4.96E-17	0	0.117354±0.000146	0.018518±0.000042	0.000280±0.000017	0.000307±0.000143	0.000398±0.000007
800	40.3±14.9	4.06	11.99	-7813	7.49E-16	0.01	0.124543±0.000127	0.049286±0.000057	0.000696±0.000027	0.002157±0.000077	0.000405±0.000006
900	24.7±7.1	5.5	32.51	-8002	1.07E-15	0.04	0.130962±0.000118	0.114251±0.000098	0.001518±0.000018	0.001844±0.000117	0.000419±0.000007
975	45.9±4.3	15.5	35.07	-6439	2.36E-15	0.08	0.102964±0.000113	0.136461±0.000112	0.001757±0.000026	0.002042±0.000130	0.000295±0.000005
1050	29.5±3.1	15.68	44.29	-10452	2.50E-15	0.15	0.107539±0.000102	0.224067±0.000157	0.002910±0.000013	0.002655±0.000078	0.000307±0.000006
1125	38.4±4.3	26.64	42.52	-10939	4.63E-15	0.28	0.117504±0.000144	0.319513±0.000266	0.004127±0.000029	0.003943±0.001072	0.000292±0.000012
1200	39.0±1.9	26.89	42.19	165171	5.12E-15	0.44	0.128703±0.000160	0.347608±0.000319	0.004636±0.000027	0.004323±0.000248	0.000318±0.000006
1275	42.5±0.9	45.03	39.65	-12987	1.14E-14	0.81	0.171051±0.000147	0.710731±0.000434	0.009163±0.000038	0.009404±0.000251	0.000318±0.000005
1350	39.8±2.4	55.99	16.8	-9370	3.41E-15	0.94	0.041137±0.000091	0.226787±0.000159	0.002888±0.000046	0.007083±0.000152	0.000062±0.000005
1450	46.0±5.0	57.66	9.73	-6132	1.78E-15	1	0.020799±0.000111	0.102188±0.000105	0.001277±0.000026	0.005508±0.000187	0.000031±0.000004

Packet IRR326-UZ, Experiment #14Z0082, 0.0505 g Sanidine, all errors ±1 sigma
J = 0.0002173914395238 3±3.4019524E-07

40Ar* is radiogenic argon, isotopes in volts (11.00 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 30.353 ± 88.365, Calculated K2O = 6.13e+14%wt., Calculated CaO = 2.47e+13%wt., Calculated Cl = -6.2e+13ppm

Total Gas Age = 38.3 ± 1.1 ka

Weighted Mean Plateau Age = 41.7 ± 0.8 ka (±1 sigma, including ±J), 84.7% 39Ar released
Weighted Mean Plateau Age = 41.7 ± 0.7 ka (A priori, including ±J), 84.7% 39Ar released
Weighted Mean Plateau Age = 41.7 ± 1.8 ka (95% confidence, including ±J)
MSWD = 1.16 (Good fit, MSWD < 2.77)
Steps 5 of 11 (1125,1200,1275,1350,1450°C)

Isochron Age = 43.8 ± 2.0 ka (±1 sigma, including ±J)
Isochron Age = 43.8 ± 1.9 ka (A Priori Errors, including ±J)
Isochron Age = 43.8 ± 4.5 ka (95% confidence, including ±J)
MSWD = 1.03 (Good fit, MSWD < 3.12)
40Ar/36Ar intercept = 284.2 ± 9.2 (±1 sigma)
40Ar/36Ar intercept = 284.2 ± 9.1 (A Priori)
40Ar/36Ar intercept = 284.2 ± 21.3 (95% confidence)
Steps 5 of 11 (1125,1200,1275,1350,1450°C)

M-240 Dacite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	3702.8±26.2	77.24	0.66	-2194	1.10E-14	0.01	0.620965±0.000307	0.043936±0.000069	0.000582±0.000025	0.034791±0.000152	0.000488±0.000011
600	3755.8±10.5	80.26	0.73	-34417	3.59E-14	0.04	1.941590±0.000810	0.140738±0.000191	0.002077±0.000034	0.101459±0.000658	0.001325±0.000013
650	3760.2±7.3	86.86	0.86	-6197	6.68E-14	0.09	3.342003±0.001077	0.261838±0.000243	0.003541±0.000056	0.159128±0.001443	0.001530±0.000016
700	3730.4±4.2	91.57	1	-8333	1.08E-13	0.18	5.130738±0.001709	0.427139±0.000293	0.005672±0.000049	0.224540±0.002522	0.001526±0.000013
750	3665.5±3.7	93.24	1.12	-4776	1.21E-13	0.27	5.669214±0.001931	0.489063±0.000279	0.006235±0.000056	0.228869±0.002001	0.001361±0.000013
800	3605.9±2.8	94.46	1.21	-5155	2.05E-13	0.44	9.415601±0.002907	0.836442±0.000401	0.010633±0.000067	0.362161±0.000866	0.001868±0.000016
825	3566.5±3.5	95.19	1.2	-7929	1.62E-13	0.57	7.390091±0.002975	0.668910±0.000447	0.008659±0.000057	0.292799±0.001180	0.001285±0.000014
850	3562.1±3.3	95.43	1.12	-10158	1.34E-13	0.68	6.137270±0.001712	0.557599±0.000330	0.007275±0.000042	0.260823±0.001495	0.001023±0.000013
875	3559.4±4.0	95.27	1.01	-9647	1.04E-13	0.77	4.786795±0.001672	0.434541±0.000343	0.005665±0.000071	0.226593±0.000780	0.000830±0.000011
900	3551.6±4.6	94.44	0.93	-4777	8.15E-14	0.84	3.749693±0.001545	0.338170±0.000210	0.004276±0.000045	0.190180±0.001472	0.000759±0.000012
950	3544.5±5.7	92.27	0.76	-7304	7.53E-14	0.9	3.545811±0.001467	0.313094±0.000258	0.004109±0.000046	0.217302±0.002264	0.000988±0.000014
1025	3544.4±6.0	88.99	0.78	-10600	6.67E-14	0.96	3.254173±0.001003	0.277140±0.000220	0.003760±0.000032	0.185656±0.001988	0.001264±0.000014
1150	3493.4±7.0	84.43	0.81	13644	5.09E-14	1	2.618194±0.000950	0.214630±0.000200	0.003149±0.000049	0.138598±0.000700	0.001419±0.000013

Packet IRR307-KF, Experiment #12Z0242_288.34, 0.1010 g Dacite, all errors ±1 sigma
J = 0.0001881068883±1.22E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 1.001 ± 0.415, Calculated K2O = 2.33%wt., Calculated CaO = 2.85%wt., Calculated Cl = -0.4ppm

Total Gas Age = 3605.6 ± 2.7 ka

Recoil Age = 3600.2 ± 42.5 ka (±1 sigma, inverse errors * MSWD), 99.1% 39Ar released
Recoil Age = 3600.2 ± 20.0 ka (±1 sigma, inverse errors (no ±J) * MSWD), 99.1% 39Ar released
MSWD = 257.75 (Poor fit, MSWD > 1.99)
Steps 12 of 13 (600,650,700,750,800,825,850,875,900,950,1025,1150°C)

Weighted Mean Plateau Age = 3558.1 ± 5.8 ka (±1 sigma, including ±J), 51.7% 39Ar released
Weighted Mean Plateau Age = 3558.1 ± 2.9 ka (A priori, including ±J), 51.7% 39Ar released

Weighted Mean Plateau Age = 3558.1 ± 1.7 ka (A priori, without ±J)
MSWD = 4.07 (Poor fit, MSWD > 2.56)
Steps 6 of 13 (825,850,875,900,950,1025°C)

Isochron Age = 3574.5 ± 7.2 ka (±1 sigma, including ±J)
Isochron Age = 3574.5 ± 5.4 ka (A Priori Errors, including ±J)
Isochron Age = 3574.5 ± 15.4 ka (95% confidence, including ±J)
MSWD = 1.96 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 272.4 ± 8.9 (±1 sigma)
40Ar/36Ar intercept = 272.4 ± 6.3 (A Priori)
40Ar/36Ar intercept = 272.4 ± 19.8 (95% confidence)
Steps 6 of 13 (825,850,875,900,950,1025°C)

M-243 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	176.39±12.67	10.37	0.38	5398	2.09E-15	0.04	0.733276±0.001518	0.147578±0.000296	0.002422±0.000034	0.202349±0.000569	0.002281±0.000016
600	169.14±8.91	13.75	0.4	6655	2.38E-15	0.1	0.635744±0.001337	0.176909±0.000355	0.002726±0.000045	0.230074±0.001198	0.001920±0.000014
650	162.68±4.76	19.03	0.38	33182	6.75E-15	0.25	1.291968±0.002647	0.517456±0.001038	0.007354±0.000064	0.712028±0.002064	0.003740±0.000019
700	166.70±4.37	20.93	0.33	8454	6.97E-15	0.41	1.212160±0.002488	0.521258±0.001046	0.007547±0.000026	0.816174±0.002166	0.003473±0.000018
750	163.54±5.30	18.54	0.32	16794	5.89E-15	0.54	1.156832±0.002377	0.449263±0.000901	0.006466±0.000042	0.739497±0.001893	0.003397±0.000020
800	176.00±6.39	17.26	0.34	8625	5.27E-15	0.65	1.111952±0.002291	0.373426±0.000750	0.005550±0.000033	0.570409±0.001186	0.003274±0.000020
850	160.34±7.71	13.52	0.35	22976	4.19E-15	0.75	1.138992±0.002345	0.328829±0.000660	0.004895±0.000042	0.493310±0.002164	0.003472±0.000021
900	158.43±8.86	11.33	0.3	10525	3.08E-15	0.82	0.988653±0.002044	0.242092±0.000486	0.003755±0.000036	0.416722±0.001516	0.003084±0.000018
950	156.46±11.89	9.58	0.25	8006	2.30E-15	0.88	0.874899±0.001817	0.183564±0.000369	0.002952±0.000044	0.389057±0.001497	0.002786±0.000019
1000	156.82±14.04	8.72	0.21	3896	1.91E-15	0.92	0.798098±0.001664	0.152030±0.000306	0.002579±0.000046	0.377129±0.001098	0.002571±0.000019
1050	164.48±15.55	8.48	0.19	4861	1.63E-15	0.96	0.698790±0.001465	0.123535±0.000249	0.002099±0.000040	0.345642±0.001529	0.002261±0.000017
1100	150.06±13.74	8.74	0.19	3960	1.67E-15	1	0.696274±0.001460	0.139044±0.000280	0.002337±0.000038	0.387550±0.001186	0.002259±0.000017

Packet IRR279-RQ, Experiment #10Z0135, 0.1975 g Basalt, all errors ±1 sigma
J = 0.000189629±3.79E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 0.95%wt., Calculated CaO = 3.74%wt., Calculated Cl = 0.1ppm

Total Gas Age = 164.2 ± 2.0 ka

Weighted Mean Plateau Age = 164.9 ± 2.1 ka (±1 sigma, including ±J), 100.0% 39Ar released
Weighted Mean Plateau Age = 164.9 ± 2.1 ka (A priori, without ±J)
MSWD = 0.67 (Good fit, MSWD < 1.99)
Steps 12 of 12 (550,600,650,700,750,800,850,900,950,1000,1050,1100°C)

Isochron Age = 169.216 ± 5.804 ka (±1 sigma, including ±J)
Isochron Age = 169.216 ± 5.804 ka (A Priori Errors, including ±J)
Isochron Age = 169.216 ± 13.111 ka (95% confidence, including ±J)
MSWD = 0.79 (Good fit, MSWD < 2.05)
40Ar/36Ar intercept = 294.0 ± 1.8 (±1 sigma)
40Ar/36Ar intercept = 294.0 ± 1.8 (A Priori)
40Ar/36Ar intercept = 294.0 ± 4.2 (95% confidence)
Steps 12 of 12 (550,600,650,700,750,800,850,900,950,1000,1050,1100°C)

M-267 Andesite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	-25.9±15.0	-1.22	0.45	-23236	-1.97E-16	0.02	0.702399±0.000347	0.108351±0.000138	0.001856±0.000039	0.126283±0.001033	0.002441±0.000017
600	21.2±11.4	1.43	0.48	-13112	2.37E-16	0.04	0.718800±0.000278	0.158901±0.000152	0.002488±0.000046	0.173393±0.001041	0.002446±0.000019
650	10.9±6.2	1.06	0.54	-18401	2.52E-16	0.1	1.028467±0.000335	0.327339±0.000244	0.004876±0.000058	0.316090±0.001114	0.003532±0.000021
700	22.9±4.1	3.01	0.63	-12593	7.69E-16	0.17	1.109823±0.000494	0.478524±0.000313	0.006815±0.000046	0.400837±0.001841	0.003755±0.000020
750	16.6±3.5	2.66	0.72	-6643	7.68E-16	0.28	1.253848±0.000505	0.659915±0.000382	0.009029±0.000045	0.482987±0.001923	0.004266±0.000023
800	33.6±3.1	6.19	0.76	-9396	1.61E-15	0.39	1.130118±0.000469	0.681754±0.000400	0.009329±0.000089	0.468921±0.000896	0.003720±0.000021
850	33.6±1.9	7.08	0.83	-11859	2.49E-15	0.57	1.528816±0.000538	1.057092±0.000603	0.014422±0.000082	0.664680±0.001544	0.004994±0.000020
925	33.3±1.8	7.35	0.82	-12453	3.02E-15	0.78	1.784906±0.000707	1.293581±0.000702	0.017618±0.000109	0.828262±0.002316	0.005829±0.000023
1000	35.4±2.2	6.4	0.71	-248058	2.21E-15	0.92	1.498942±0.000607	0.889042±0.000467	0.012570±0.000087	0.657846±0.001759	0.004933±0.000020
1075	31.6±5.9	2.77	0.48	4968	7.25E-16	0.97	1.138417±0.000427	0.326975±0.000268	0.005287±0.000063	0.360091±0.001636	0.003847±0.000020
1150	24.0±14.0	0.97	0.31	1792	2.60E-16	1	1.169026±0.000482	0.154371±0.000171	0.003136±0.000037	0.264296±0.002338	0.003992±0.000022

Packet IRR307-KH, Experiment #12Z0243_288.34, 0.1582 g Andesite, all errors ±1 sigma
J = 0.0001817101508±1.20E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.678 ± 0.259, Calculated K2O = 1.89%wt., Calculated CaO = 3.41%wt., Calculated Cl = -0.1ppm

Total Gas Age = 28.2 ± 1.1 ka

Weighted Mean Plateau Age = 33.8 ± 1.0 ka (±1 sigma, including ±J), 71.8% 39Ar released
Weighted Mean Plateau Age = 33.8 ± 1.0 ka (A priori, including ±J), 71.8% 39Ar released
Weighted Mean Plateau Age = 33.8 ± 1.0 ka (A priori, without ±J)
MSWD = 0.25 (Good fit, MSWD < 2.56)
Steps 6 of 11 (800,850,925,1000,1075,1150°C)

Isochron Age = 35.4 ± 2.9 ka (±1 sigma, including ±J)
Isochron Age = 35.4 ± 2.9 ka (A Priori Errors, including ±J)
Isochron Age = 35.4 ± 6.6 ka (95% confidence, including ±J)
MSWD = 0.21 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 294.5 ± 1.6 (±1 sigma)
40Ar/36Ar intercept = 294.5 ± 1.6 (A Priori)
40Ar/36Ar intercept = 294.5 ± 3.7 (95% confidence)
Steps 6 of 11 (800,850,925,1000,1075,1150°C)

M-282 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	167.39±17.65	3.3	0.23	40729	3.00E-15	0.04	3.299739±0.001528	0.268551±0.000198	0.005590±0.000046	0.602212±0.001844	0.010966±0.000038
600	166.63±7.96	5.91	0.27	116282	6.08E-15	0.11	3.746165±0.001832	0.547437±0.000285	0.009468±0.000063	1.060501±0.001327	0.012225±0.000035
650	166.01±5.40	9.96	0.32	116369	9.86E-15	0.23	3.605176±0.001241	0.891002±0.000319	0.013828±0.000067	1.441383±0.002999	0.011387±0.000038
700	164.89±4.04	14.36	0.38	38136	1.30E-14	0.39	3.284649±0.001151	1.178769±0.000464	0.017439±0.000084	1.623027±0.003433	0.009971±0.000038
750	164.61±3.18	16.48	0.45	-73525	1.47E-14	0.57	3.247321±0.001120	1.339506±0.000496	0.019275±0.000107	1.561020±0.002331	0.009612±0.000033
800	160.40±3.61	15.21	0.52	192399	1.23E-14	0.72	2.948459±0.000859	1.151827±0.000429	0.016769±0.000067	1.165888±0.002295	0.008783±0.000033
850	162.22±5.82	11.02	0.5	18377	8.60E-15	0.83	2.865550±0.001070	0.801892±0.000348	0.012356±0.000066	0.841787±0.002349	0.008862±0.000038
900	163.30±9.28	5.79	0.38	8087	4.35E-15	0.88	2.736750±0.000955	0.399733±0.000221	0.007108±0.000054	0.548796±0.000524	0.008878±0.000030
950	132.81±15.71	2.65	0.28	2795	2.26E-15	0.92	3.104972±0.001117	0.255236±0.000186	0.005669±0.000056	0.476124±0.001304	0.010362±0.000033
1000	152.19±19.58	2.2	0.25	1861	2.24E-15	0.95	3.704658±0.001289	0.220703±0.000210	0.005711±0.000048	0.467082±0.002036	0.012392±0.000035
1050	139.09±24.98	1.46	0.2	1281	2.01E-15	0.98	4.993464±0.001691	0.216565±0.000195	0.006696±0.000050	0.553531±0.001333	0.016806±0.000044
1100	38.48±39.12	0.22	0.05	529	4.70E-16	1	7.914215±0.003185	0.184307±0.000173	0.008948±0.000058	2.002045±0.004137	0.027287±0.000056

Packet IRR290-XR, Experiment #11z0121, 0.2122 g Basalt, all errors ±1 sigma
J = 0.000228138015±1.698E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.63%wt., Calculated CaO = 6.29%wt., Calculated Cl = 0.2ppm

Total Gas Age = 158.8 ± 2.1 ka

Weighted Mean Plateau Age = 163.7 ± 1.7 ka (±1 sigma, including ±J), 88.2% 39Ar released
Weighted Mean Plateau Age = 163.7 ± 1.7 ka (A priori, without ±J)
MSWD = 0.20 (Good fit, MSWD < 2.29)
Steps 8 of 12 (550,600,650,700,750,800,850,900°C)

Isochron Age = 162.3 ± 3.7 ka (±1 sigma, including ±J)
Isochron Age = 162.3 ± 3.7 ka (A Priori Errors, including ±J)
Isochron Age = 162.3 ± 8.4 ka (95% confidence, including ±J)
MSWD = 0.21 (Good fit, MSWD < 2.40)
40Ar/36Ar intercept = 295.9 ± 0.8 (±1 sigma)
40Ar/36Ar intercept = 295.9 ± 0.8 (A Priori)
40Ar/36Ar intercept = 295.9 ± 1.9 (95% confidence)
Steps 8 of 12 (550,600,650,700,750,800,850,900°C)

M-313 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	107.49±6.89	11.84	0.48	5063	2.14E-15	0.04	0.658457±0.001416	0.257201±0.000516	0.003876±0.000039	0.281418±0.001889	0.002044±0.000015
600	124.02±4.96	23.21	0.45	11648	4.52E-15	0.13	0.708913±0.002042	0.470433±0.000944	0.006538±0.000063	0.549329±0.001637	0.001997±0.000020
650	129.41±3.38	31.35	0.51	12149	7.71E-15	0.26	0.903055±0.002428	0.775910±0.001557	0.010593±0.000041	0.795543±0.002475	0.002321±0.000022
700	126.93±2.46	36.63	0.56	6798	9.75E-15	0.44	0.977448±0.002577	1.000320±0.002007	0.013819±0.000059	0.934380±0.003370	0.002359±0.000020
750	131.98±2.49	40.01	0.56	7100	1.06E-14	0.62	0.965243±0.002552	1.037636±0.002081	0.014267±0.000098	0.967712±0.003004	0.002231±0.000022
800	133.28±2.72	36.91	0.46	8212	8.97E-15	0.77	0.884847±0.002392	0.869034±0.001743	0.011928±0.000090	0.984380±0.002267	0.002166±0.000020
850	130.11±3.95	22.64	0.32	3686	5.33E-15	0.86	0.856683±0.001838	0.528876±0.001062	0.007808±0.000056	0.857564±0.002360	0.002484±0.000017
900	122.96±6.44	14.19	0.23	2873	3.08E-15	0.92	0.790884±0.001707	0.323871±0.000651	0.005065±0.000061	0.723160±0.003917	0.002500±0.000018
975	124.99±7.83	9.43	0.21	2261	2.95E-15	0.97	1.146234±0.002379	0.307125±0.000617	0.005179±0.000026	0.782091±0.004004	0.003733±0.000019
1050	101.44±21.22	3.28	0.08	1060	1.05E-15	0.99	1.180434±0.002447	0.135761±0.000273	0.003025±0.000041	0.909569±0.004210	0.004119±0.000024
1150	70.26±74.27	0.71	0.01	264	1.86E-16	1	0.958392±0.002004	0.035268±0.000072	0.001644±0.000031	1.539078±0.004552	0.003653±0.000022

Packet IRR281-ST, Experiment #10Z0215, 0.1838 g Basalt, all errors ±1 sigma
J = 0.000196431±3.93E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.67%wt., Calculated CaO = 6.35%wt., Calculated Cl = 0.4ppm

Total Gas Age = 127.1 ± 1.3 ka

Weighted Mean Plateau Age = 129.6 ± 1.2 ka (±1 sigma, including ±J), 92.6% 39Ar released
Weighted Mean Plateau Age = 129.6 ± 1.2 ka (A priori, without ±J)
MSWD = 0.95 (Good fit, MSWD < 2.29)
Steps 8 of 11 (600,650,700,750,800,850,900,975°C)

Isochron Age = 131.884 ± 2.195 ka (±1 sigma, including ±J)
Isochron Age = 131.884 ± 2.195 ka (A Priori Errors, including ±J)
Isochron Age = 131.884 ± 5.031 ka (95% confidence, including ±J)
MSWD = 0.88 (Good fit, MSWD < 2.40)
40Ar/36Ar intercept = 293.1 ± 1.8 (±1 sigma)
40Ar/36Ar intercept = 293.1 ± 1.8 (A Priori)
40Ar/36Ar intercept = 293.1 ± 4.1 (95% confidence)
Steps 8 of 11 (600,650,700,750,800,850,900,975°C)

M-315 Andesite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	355.7±27.6	3.72	0.43	5779	2.31E-15	0.03	2.693701±0.000894	0.111898±0.000131	0.003197±0.000043	0.137321±0.000839	0.008815±0.000026
580	292.9±19.5	4.81	0.36	5127	2.54E-15	0.07	2.298304±0.000754	0.149864±0.000162	0.003484±0.000048	0.216357±0.000954	0.007464±0.000025
610	262.9±13.7	7.25	0.34	13195	3.18E-15	0.12	1.904298±0.000509	0.208516±0.000215	0.003932±0.000055	0.321904±0.001329	0.006067±0.000024
650	219.2±8.8	9.79	0.34	10990	3.93E-15	0.19	1.742915±0.000549	0.309200±0.000261	0.005189±0.000068	0.470961±0.001120	0.005452±0.000023
700	201.8±6.3	13.62	0.37	-23402	5.85E-15	0.32	1.865946±0.000720	0.500267±0.000321	0.007518±0.000091	0.699510±0.000536	0.005649±0.000026
750	181.3±4.8	15.01	0.44	136919	6.46E-15	0.47	1.868331±0.000653	0.614151±0.000333	0.009111±0.000074	0.737628±0.001536	0.005579±0.000024
800	176.1±4.1	15.21	0.48	22928	6.41E-15	0.63	1.845440±0.000593	0.632594±0.000338	0.009436±0.000122	0.691933±0.003088	0.005488±0.000021
850	181.3±5.2	14.16	0.42	31988	5.91E-15	0.77	1.812698±0.000536	0.562039±0.000376	0.008461±0.000088	0.709516±0.001798	0.005463±0.000024
900	188.4±7.6	10.87	0.29	11516	4.04E-15	0.86	1.614980±0.000477	0.370162±0.000268	0.005928±0.000085	0.679270±0.001434	0.005061±0.000023
975	178.9±10.3	6.15	0.19	3433	2.38E-15	0.92	1.683074±0.000539	0.229939±0.000257	0.004322±0.000071	0.624989±0.001371	0.005520±0.000020

1050	157.8±21.0	3.37	0.17	1890	1.22E-15	0.95	1.569216±0.000543	0.133390±0.000180	0.003024±0.000064	0.400333±0.000361	0.005243±0.000024
1150	162.7±21.6	3.27	0.16	1401	1.12E-15	0.98	1.485928±0.000497	0.118732±0.000175	0.002842±0.000069	0.397143±0.001124	0.004975±0.000022
1250	221.0±32.0	3.36	0.03	453	1.01E-15	1	1.305656±0.000438	0.079743±0.000186	0.002622±0.000062	1.248628±0.002577	0.004620±0.000020

Packet IRR310-LA, Experiment #12Z0300, 0.1604 g Andesite, all errors ±1 sigma
J = 0.000219918±2.14E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.287 ± 6.705e-2, Calculated K2O = 1.01%wt., Calculated CaO = 4.30%wt., Calculated Cl = 0.2ppm

Total Gas Age = 199.2 ± 2.4 ka

Weighted Mean Plateau Age = 179.5 ± 2.4 ka (±1 sigma, including ±J), 66.2% 39Ar released
Weighted Mean Plateau Age = 179.5 ± 2.4 ka (A priori, including ±J), 66.2% 39Ar released
Weighted Mean Plateau Age = 179.5 ± 2.4 ka (A priori, without ±J)
MSWD = 0.67 (Good fit, MSWD < 2.40)
Steps 7 of 13 (750,800,850,900,975,1050,1150°C)

Isochron Age = 183.0 ± 5.0 ka (±1 sigma, including ±J)
Isochron Age = 183.0 ± 5.0 ka (A Priori Errors, including ±J)
Isochron Age = 183.0 ± 11.2 ka (95% confidence, including ±J)
MSWD = 0.68 (Good fit, MSWD < 2.56)
40Ar/36Ar intercept = 294.7 ± 1.0 (±1 sigma)
40Ar/36Ar intercept = 294.7 ± 1.0 (A Priori)
40Ar/36Ar intercept = 294.7 ± 2.3 (95% confidence)
Steps 7 of 13 (750,800,850,900,975,1050,1150°C)

M-316 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	149.48±27.32	5.16	0.25	7999	7.45E-16	0.01	0.525542±0.000503	0.075560±0.000102	0.001352±0.000034	0.160811±0.000547	0.001732±0.000017
600	126.86±9.65	7.02	0.28	12840	2.43E-15	0.07	1.258943±0.000585	0.290283±0.000193	0.004665±0.000049	0.553110±0.001732	0.004116±0.000022
650	126.73±5.46	9.76	0.34	-74275	5.15E-15	0.18	1.919919±0.000653	0.615972±0.000330	0.009177±0.000058	0.960265±0.001956	0.006131±0.000027
700	128.76±4.16	12.46	0.41	-147850	7.55E-15	0.34	2.205118±0.000798	0.888635±0.000416	0.012899±0.000064	1.146897±0.000784	0.006852±0.000029
750	125.61±3.39	13.99	0.44	98591	8.65E-15	0.53	2.249821±0.000707	1.043705±0.000459	0.015012±0.000064	1.235286±0.002544	0.006892±0.000028
800	124.02±3.67	13.1	0.44	632554	7.83E-15	0.71	2.176558±0.000806	0.957381±0.000404	0.013810±0.000098	1.147918±0.002938	0.006720±0.000027
850	115.59±6.41	7.92	0.41	23445	4.55E-15	0.82	2.090219±0.000630	0.596615±0.000342	0.009184±0.000050	0.761355±0.001099	0.006725±0.000031
900	74.12±11.16	2.4	0.43	5509	1.61E-15	0.88	2.447021±0.000789	0.330049±0.000198	0.006114±0.000054	0.401026±0.000748	0.008194±0.000030
950	18.36±14.40	0.39	0.5	2854	3.15E-16	0.92	2.970009±0.000993	0.261836±0.000189	0.005712±0.000039	0.275532±0.000612	0.010088±0.000030
1000	102.10±16.94	1.88	0.37	2534	1.58E-15	0.97	3.066909±0.001031	0.234766±0.000179	0.005394±0.000052	0.334202±0.001532	0.010277±0.000032
1050	80.89±33.12	1.04	0.12	1065	6.32E-16	0.99	2.208632±0.000646	0.118780±0.000107	0.003432±0.000045	0.500518±0.001519	0.007537±0.000032
1100	144.95±58.16	1.12	0.02	930	6.46E-16	1	2.122216±0.000921	0.069173±0.000103	0.002586±0.000044	1.503406±0.002344	0.007524±0.000031

Packet IRR290-XQ, Experiment #11z0122, 0.1683 g Basalt, all errors ±1 sigma
J = 0.000230664416±2.352E-07

40Ar* is radiogenic argon, isotopes in volts (2.72e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.49%wt., Calculated CaO = 5.71%wt., Calculated Cl = 0.1ppm

Total Gas Age = 115.3 ± 2.2 ka

Weighted Mean Plateau Age = 125.3 ± 1.9 ka (±1 sigma, including ±J), 81.6% 39Ar released
Weighted Mean Plateau Age = 125.3 ± 1.9 ka (A priori, without ±J)
MSWD = 0.67 (Good fit, MSWD < 2.40)
Steps 7 of 12 (550,600,650,700,750,800,850°C)

Isochron Age = 125.9 ± 7.0 ka (±1 sigma, including ±J)
Isochron Age = 125.9 ± 7.0 ka (A Priori Errors, including ±J)
Isochron Age = 125.9 ± 15.9 ka (95% confidence, including ±J)
MSWD = 0.80 (Good fit, MSWD < 2.56)
40Ar/36Ar intercept = 295.3 ± 2.1 (±1 sigma)
40Ar/36Ar intercept = 295.3 ± 2.1 (A Priori)
40Ar/36Ar intercept = 295.3 ± 4.8 (95% confidence)
Steps 7 of 12 (550,600,650,700,750,800,850°C)

M-319 Dacite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	86.22±3.92	21.78	4.03	-47931	3.63E-15	0.05	0.606251±0.001658	0.490638±0.000984	0.006523±0.000044	0.063800±0.000583	0.001623±0.000019
600	72.82±2.16	23.91	5.18	-24971	6.52E-15	0.15	0.992720±0.002448	1.044268±0.002095	0.013636±0.000085	0.105676±0.000808	0.002586±0.000021
650	73.01±1.40	30.83	5.14	-50420	1.10E-14	0.33	1.299432±0.003060	1.757466±0.003525	0.022866±0.000098	0.179252±0.001999	0.003092±0.000021
700	72.43±1.10	36.66	4.68	-1373600	1.38E-14	0.55	1.365044±0.003191	2.213464±0.004439	0.028812±0.000102	0.247894±0.002056	0.002995±0.000021
750	71.76±1.02	34.22	3.91	24590	1.29E-14	0.76	1.370642±0.002877	2.093825±0.004200	0.027681±0.000091	0.280878±0.001406	0.003130±0.000017
800	75.26±1.52	30.74	2.75	11973	8.29E-15	0.89	0.982178±0.002101	1.285081±0.002578	0.017307±0.000070	0.245113±0.002261	0.002371±0.000018
850	74.59±3.21	18.81	1.77	7155	3.12E-15	0.93	0.602947±0.001344	0.487067±0.000978	0.006825±0.000073	0.144171±0.000945	0.001697±0.000015
925	60.47±5.74	7.87	1.25	2513	1.45E-15	0.96	0.671462±0.001452	0.280128±0.000562	0.004450±0.000059	0.117965±0.000939	0.002127±0.000015
1000	37.62±8.91	2.98	1.27	2062	7.27E-16	0.98	0.896709±0.001902	0.227217±0.000456	0.003927±0.000047	0.093711±0.000912	0.002971±0.000019
1100	-50.17±21.54	-1.27	0.83	593	-6.64E-16	1	1.903942±0.003916	0.154391±0.000310	0.004311±0.000066	0.097498±0.000926	0.006552±0.000027

Packet IRR281-SW, Experiment #10Z0213, 0.1279 g Dacite, all errors ±1 sigma
J = 0.000177541±3.55E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 4.67%wt., Calculated CaO = 1.71%wt., Calculated Cl = 0.3ppm

Total Gas Age = 70.6 ± 0.6 ka

Weighted Mean Plateau Age = 72.8 ± 0.6 ka (±1 sigma, including ±J), 88.5% 39Ar released
Weighted Mean Plateau Age = 72.8 ± 0.6 ka (A priori, without ±J)
MSWD = 0.82 (Good fit, MSWD < 2.56)

Steps 6 of 10 (600,650,700,750,800,850°C)

Isochron Age = 70.466 ± 2.126 ka (±1 sigma, including ±J)
Isochron Age = 70.466 ± 2.126 ka (A Priori Errors, including ±J)
Isochron Age = 70.466 ± 5.018 ka (95% confidence, including ±J)
MSWD = 0.87 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 299.9 ± 3.9 (±1 sigma)
40Ar/36Ar intercept = 299.9 ± 3.9 (A Priori)
40Ar/36Ar intercept = 299.9 ± 9.3 (95% confidence)
Steps 6 of 10 (600,650,700,750,800,850°C)

M-322 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
700	264.2±91.6	2.07	0.11	2647	1.23E-15	0.04	0.401354±0.000190	0.012378±0.000031	0.000433±0.000014	0.058074±0.000355	0.001346±0.000010
800	118.4±30.1	8.33	0.12	6801	1.07E-15	0.13	0.086964±0.000101	0.024054±0.000039	0.000384±0.000015	0.105365±0.000453	0.000299±0.000006
900	113.4±17.3	13.26	0.12	-14298	1.67E-15	0.27	0.085073±0.000104	0.039110±0.000049	0.000553±0.000027	0.167862±0.000609	0.000297±0.000006
975	85.7±18.4	12.38	0.13	2049	1.15E-15	0.4	0.062919±0.000097	0.035741±0.000044	0.000583±0.000032	0.145146±0.000592	0.000227±0.000006
1050	92.7±16.4	14.32	0.13	38146	1.53E-15	0.56	0.072051±0.000121	0.043780±0.000056	0.000623±0.000028	0.175458±0.000592	0.000258±0.000006
1125	92.1±14.5	17.36	0.13	-8857	1.57E-15	0.72	0.061495±0.000095	0.045590±0.000060	0.000613±0.000010	0.182152±0.000657	0.000223±0.000006
1200	112.2±23.0	14.36	0.14	3016	1.36E-15	0.84	0.064133±0.000102	0.032285±0.000047	0.000508±0.000018	0.124991±0.000611	0.000221±0.000006
1275	274.3±31.6	26.41	0.14	154369	2.10E-15	0.91	0.053654±0.000118	0.020309±0.000050	0.000294±0.000013	0.077970±0.000294	0.000155±0.000005
1350	10817.5±13164.2	55.45	0.25	12	1.82E-16	0.91	0.002235±0.000091	0.000045±0.000007	0.000017±0.000015	0.000094±0.000090	0.000003±0.000005
1450	691.0±27.3	30.84	0.11	-3475	6.58E-15	1	0.144164±0.000134	0.025304±0.000042	0.000367±0.000010	0.121578±0.000480	0.000371±0.000006

Packet IRR326-US, Experiment #14Z0080, 0.1016 g Anorthoclase, all errors ±1 sigma
J = 0.00021729723014534±5.1019810E-07
40Ar* is radiogenic argon, isotopes in volts (1.48e-13 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 0.72%wt., Calculated CaO = 6.97%wt., Calculated Cl = 7.6e-2ppm

Total Gas Age = 176.0 ± 7.3 ka

Weighted Mean Plateau Age = 98.9 ± 7.5 ka (±1 sigma, including ±J), 79.1% 39Ar released
Weighted Mean Plateau Age = 98.9 ± 7.5 ka (A priori, without ±J)
MSWD = 0.47 (Good fit, MSWD < 2.56)
Steps 6 of 10 (800,900,975,1050,1125,1200°C)

Isochron Age = 72.8 ± 25.1 ka (±1 sigma, including ±J)
Isochron Age = 72.8 ± 25.1 ka (A Priori Errors, including ±J)
Isochron Age = 72.8 ± 59.3 ka (95% confidence, including ±J)
MSWD = 0.26 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 307.7 ± 11.3 (±1 sigma)
40Ar/36Ar intercept = 307.7 ± 11.3 (A Priori)
40Ar/36Ar intercept = 307.7 ± 26.6 (95% confidence)
Steps 6 of 10 (800,900,975,1050,1125,1200°C)

M-324 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	121.5±15.0	6.31	0.25	-6253	6.92E-16	0.02	0.476664±0.000267	0.099132±0.000122	0.001522±0.000033	0.207055±0.000587	0.001569±0.000012
600	151.3±9.2	10.79	0.28	12783	1.84E-15	0.06	0.740430±0.000357	0.211674±0.000147	0.003279±0.000048	0.394630±0.001948	0.002345±0.000016
650	157.9±5.8	14.86	0.33	18484	3.63E-15	0.13	1.059914±0.000390	0.399624±0.000252	0.005930±0.000069	0.643038±0.001556	0.003233±0.000019
700	152.7±4.2	17.23	0.4	21406	4.70E-15	0.23	1.184077±0.000461	0.535024±0.000320	0.007774±0.000067	0.701376±0.001715	0.003512±0.000019
750	149.5±3.6	18.62	0.5	51831	5.68E-15	0.36	1.325184±0.000486	0.660691±0.000391	0.009434±0.000114	0.698198±0.001717	0.003844±0.000020
800	150.5±3.3	19.38	0.59	-91070	6.57E-15	0.5	1.471824±0.000707	0.758853±0.000406	0.010702±0.000082	0.677356±0.001128	0.004203±0.000021
850	157.9±3.4	19.63	0.64	-588400	6.43E-15	0.63	1.423581±0.000481	0.708642±0.000381	0.010043±0.000114	0.576835±0.000684	0.004032±0.000020
900	161.4±4.2	17.04	0.64	18356	6.07E-15	0.75	1.547108±0.000517	0.653937±0.000407	0.009570±0.000068	0.539132±0.001746	0.004493±0.000023
950	154.1±5.8	11.53	0.55	21102	4.16E-15	0.84	1.567382±0.000603	0.469681±0.000315	0.007155±0.000055	0.446449±0.001210	0.004816±0.000023
1000	152.4±9.2	7.04	0.43	4623	2.47E-15	0.89	1.523254±0.000570	0.281568±0.000240	0.004865±0.000064	0.343284±0.000678	0.004888±0.000022
1075	128.9±12.8	3.3	0.33	2937	1.93E-15	0.94	2.535015±0.000964	0.259992±0.000231	0.005356±0.000076	0.413526±0.000767	0.008411±0.000028
1150	159.8±18.3	2.76	0.25	1755	1.86E-15	0.98	2.929870±0.001086	0.202570±0.000207	0.004969±0.000039	0.420935±0.001153	0.009759±0.000031
1250	94.4±51.3	0.35	0.05	451	6.27E-16	1	7.702137±0.002249	0.116386±0.000161	0.007513±0.000131	1.278654±0.003047	0.026331±0.000049

Packet IRR310-KZ, Experiment #12Z0298, 0.1597 g Basalt, all errors ±1 sigma
J = 0.00022179±1.59E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.383 ± 0.101, Calculated K2O = 1.34%wt., Calculated CaO = 4.29%wt., Calculated Cl = 0.2ppm

Total Gas Age = 151.5 ± 2.0 ka

Weighted Mean Plateau Age = 154.2 ± 1.5 ka (±1 sigma, including ±J), 87.4% 39Ar released
Weighted Mean Plateau Age = 154.2 ± 1.5 ka (A priori, including ±J), 87.4% 39Ar released
Weighted Mean Plateau Age = 154.2 ± 1.5 ka (A priori, without ±J)
MSWD = 0.96 (Good fit, MSWD < 2.19)
Steps 9 of 13 (600,650,700,750,800,850,900,950,1000°C)

Isochron Age = 153.2 ± 4.9 ka (±1 sigma, including ±J)
Isochron Age = 153.2 ± 4.7 ka (A Priori Errors, including ±J)
Isochron Age = 153.2 ± 10.8 ka (95% confidence, including ±J)
MSWD = 1.08 (Good fit, MSWD < 2.29)
40Ar/36Ar intercept = 295.9 ± 1.7 (±1 sigma)
40Ar/36Ar intercept = 295.9 ± 1.7 (A Priori)
40Ar/36Ar intercept = 295.9 ± 3.9 (95% confidence)
Steps 9 of 13 (600,650,700,750,800,850,900,950,1000°C)

M-329 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar

600	1574.4±424.7	21.79	-0.13	-59	1.47E-15	0.01	0.045586±0.000564	0.002571±0.000051	-0.000131±0.000021	-0.010194±0.000977	0.000118±0.000009
700	486.9±98.4	39.08	-1.14	-279	1.50E-15	0.02	0.025922±0.000359	0.008499±0.000028	-0.000009±0.000021	-0.003915±0.001081	0.000052±0.000007
800	192.9±38.6	42.62	7.92	-879	1.76E-15	0.07	0.027931±0.000489	0.025210±0.000061	0.000218±0.000023	0.001670±0.000970	0.000055±0.000008
900	107.1±26.9	34.97	3.24	-2184	2.02E-15	0.18	0.038951±0.000389	0.051993±0.000066	0.000597±0.000047	0.008419±0.001939	0.000088±0.000011
975	72.9±25.4	46.03	2.85	-4807	1.55E-15	0.3	0.022772±0.000197	0.058773±0.000054	0.000728±0.000025	0.010837±0.002644	0.000044±0.000012
1075	83.1±13.4	43.73	2.58	-10238	3.27E-15	0.52	0.050514±0.000196	0.108653±0.000105	0.001401±0.000050	0.022125±0.003753	0.000102±0.000012
1150	72.2±15.0	30.66	1.79	7018	2.41E-15	0.71	0.053151±0.000175	0.092317±0.000100	0.001293±0.000040	0.027044±0.002563	0.000132±0.000011
1225	75.3±24.6	50.97	1.41	6236	2.16E-15	0.87	0.028574±0.000188	0.079005±0.000109	0.001102±0.000064	0.029361±0.004154	0.000055±0.000016
1300	-74.1±129.3	-33.46	0.48	-3097	-9.59E-16	0.94	0.019364±0.000310	0.035747±0.000141	0.000437±0.000028	0.038785±0.003110	0.000098±0.000038

Packet IRR324-UJ, Experiment #14Z0081, 0.0295 g Sanidine, all errors ±1 sigma
J = 0.0002265124986217O±3.1702533E-07
40Ar* is radiogenic argon, isotopes in volts (1.47e-13 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 4.19%wt., Calculated CaO = 3.50%wt., Calculated Cl = -1.3ppm

Total Gas Age = 101.1 ± 14.4 ka

Weighted Mean Plateau Age = 80.1 ± 8.3 ka (±1 sigma, including ±J), 79.6% 39Ar released
Weighted Mean Plateau Age = 80.1 ± 8.3 ka (A priori, without ±J)
MSWD = 0.36 (Good fit, MSWD < 2.77)
Steps 5 of 10 (900,975,1075,1150,1225°C)

Isochron Age = 65.3 ± 31.5 ka (±1 sigma, including ±J)
Isochron Age = 65.3 ± 31.5 ka (A Priori Errors, including ±J)
Isochron Age = 65.3 ± 74.4 ka (95% confidence, including ±J)
MSWD = 0.34 (Good fit, MSWD < 3.12)
40Ar/36Ar intercept = 326.6 ± 69.7 (±1 sigma)
40Ar/36Ar intercept = 326.6 ± 69.7 (A Priori)
40Ar/36Ar intercept = 326.6 ± 164.8 (95% confidence)
Steps 5 of 10 (900,975,1075,1150,1225°C)

M-335 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	8.32±7.97	0.54	0.32	8332	2.19E-16	0.05	1.470626±0.000767	0.389160±0.000215	0.006254±0.000048	0.643537±0.003474	0.005129±0.000025
600	16.40±4.91	1.6	0.38	98871	7.00E-16	0.13	1.591757±0.000849	0.629792±0.000279	0.009314±0.000061	0.861150±0.001207	0.005540±0.000025
650	16.87±3.23	2.2	0.49	-42889	1.11E-15	0.25	1.841699±0.000685	0.974586±0.000400	0.013872±0.000081	1.036489±0.001054	0.006383±0.000025
700	17.75±2.49	2.66	0.62	-80363	1.58E-15	0.42	2.187560±0.000764	1.327010±0.000736	0.018739±0.000082	1.119702±0.002798	0.007516±0.000027
750	16.88±2.60	2.57	0.66	487517	1.63E-15	0.6	2.301313±0.000898	1.420313±0.000604	0.020120±0.000062	1.132375±0.001451	0.007901±0.000030
800	19.29±3.59	2.56	0.54	19374	1.42E-15	0.73	2.010892±0.000589	1.083287±0.000515	0.015738±0.000080	1.044391±0.002062	0.006920±0.000032
875	13.06±5.04	0.91	0.36	5445	7.02E-16	0.83	2.795143±0.000924	0.793362±0.000304	0.012828±0.000054	1.155442±0.002038	0.009695±0.000032
950	9.54±7.32	0.34	0.41	2037	3.49E-16	0.9	3.787233±0.001301	0.539791±0.000309	0.010633±0.000063	0.684542±0.000412	0.012964±0.000032
1025	23.03±8.98	0.6	0.38	1761	8.59E-16	0.97	5.233236±0.001669	0.550295±0.000255	0.011880±0.000076	0.767926±0.002394	0.017818±0.000041
1100	46.77±21.00	0.64	0.06	660	8.02E-16	1	4.592852±0.001505	0.254423±0.000208	0.007930±0.000046	2.320152±0.003435	0.016095±0.000042

Packet IRR290-XS, Experiment #11z0120, 0.1937 g Basalt, all errors ±1 sigma
J = 0.000224561453±1.312E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.93%wt., Calculated CaO = 6.10%wt., Calculated Cl = 0.3ppm

Total Gas Age = 17.4 ± 1.5 ka

Weighted Mean Plateau Age = 16.9 ± 1.3 ka (±1 sigma, including ±J), 100.0% 39Ar released
Weighted Mean Plateau Age = 16.9 ± 1.3 ka (A priori, without ±J)
MSWD = 0.65 (Good fit, MSWD < 2.11)
Steps 10 of 10 (550,600,650,700,750,800,875,950,1025,1100°C)

Isochron Age = 16.4 ± 2.1 ka (±1 sigma, including ±J)
Isochron Age = 16.4 ± 2.1 ka (A Priori Errors, including ±J)
Isochron Age = 16.4 ± 5.0 ka (95% confidence, including ±J)
MSWD = 0.72 (Good fit, MSWD < 2.19)
40Ar/36Ar intercept = 295.7 ± 0.5 (±1 sigma)
40Ar/36Ar intercept = 295.7 ± 0.5 (A Priori)
40Ar/36Ar intercept = 295.7 ± 1.3 (95% confidence)
Steps 10 of 10 (550,600,650,700,750,800,875,950,1025,1100°C)

M-344 Plag

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
700	69.51±16.74	5.94	0.1	4514	3.95E-16	0.03	0.241949±0.000575	0.075265±0.000152	0.001186±0.000030	0.394978±0.002423	0.000881±0.000011
800	75.86±8.92	31.76	0.1	4690	1.11E-15	0.11	0.127356±0.000862	0.193987±0.000390	0.002734±0.000030	1.027770±0.002772	0.000583±0.000016
900	69.68±4.89	59.32	0.1	7039	1.87E-15	0.27	0.115026±0.000838	0.356275±0.000715	0.004841±0.000044	1.884362±0.004416	0.000688±0.000016
1000	69.60±4.03	96.85	0.1	7430	2.66E-15	0.48	0.100148±0.000810	0.507006±0.001017	0.006831±0.000115	2.641987±0.005744	0.000753±0.000019
1100	73.67±3.46	52.16	0.1	2668	2.99E-15	0.71	0.210749±0.001023	0.542851±0.001089	0.007932±0.000068	2.783499±0.006587	0.001123±0.000017
1200	78.67±4.18	189.59	0.11	6068	2.31E-15	0.87	0.044398±0.000704	0.389169±0.000781	0.005264±0.000052	1.908349±0.004052	0.000402±0.000015
1300	212.95±7.05	100.57	0.11	4933	3.43E-15	0.97	0.124163±0.000856	0.213255±0.000428	0.002932±0.000046	1.007746±0.003364	0.000281±0.000014
1400	132.42±14.12	52.61	0.1	3383	8.15E-16	1	0.056358±0.000355	0.081466±0.000176	0.001170±0.000022	0.421436±0.002467	0.000209±0.000011

Packet IRR281-SJ, Experiment #10Z0216, 0.1984 g Plag, all errors ±1 sigma
J = 0.000200922±4.02E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 0.62%wt., Calculated CaO = 7.46%wt., Calculated Cl = 0.2ppm

Total Gas Age = 87.7 ± 2.4 ka

Weighted Mean Plateau Age = 73.2 ± 2.0 ka (±1 sigma, including ±J), 87.5% 39Ar released
Weighted Mean Plateau Age = 73.2 ± 2.0 ka (A priori, without ±J)

MSWD = 0.64 (Good fit, MSWD < 2.56)
Steps 6 of 8 (700,800,900,1000,1100,1200°C)

Isochron Age = 75.104 ± 2.690 ka (±1 sigma, including ±J)
Isochron Age = 75.104 ± 2.690 ka (A Priori Errors, including ±J)
Isochron Age = 75.104 ± 6.906 ka (95% confidence, including ±J)
MSWD = 0.50 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 293.1 ± 4.4 (±1 sigma)
40Ar/36Ar intercept = 293.1 ± 4.4 (A Priori)
40Ar/36Ar intercept = 293.1 ± 11.4 (95% confidence)
Steps 6 of 8 (700,800,900,1000,1100,1200°C)

M-347 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	-2445.4±729.9	31.76	0.13	396	-5.68E-16	0	-0.036715±0.000220	0.001971±0.000022	0.000032±0.000022	0.007746±0.000143	-0.000083±0.000012
700	30.8±237.3	0.15	0.12	2578	2.73E-17	0.02	0.376951±0.000310	0.007522±0.000039	0.000350±0.000012	0.032186±0.000308	0.001283±0.000015
800	112.8±87.7	16.68	0.11	1062	2.40E-16	0.05	0.029514±0.000216	0.018037±0.000054	0.000327±0.000015	0.084653±0.000289	0.000107±0.000013
900	54.0±40.5	5.66	0.11	-9262	2.37E-16	0.12	0.086063±0.000187	0.037291±0.000065	0.000528±0.000043	0.173948±0.000479	0.000324±0.000012
1000	99.1±22.2	11.16	0.11	-18749	7.98E-16	0.24	0.146888±0.000223	0.068346±0.000099	0.000972±0.000028	0.316131±0.000951	0.000530±0.000012
1075	74.7±20.2	9.7	0.11	-4349	6.53E-16	0.37	0.138204±0.000193	0.074157±0.000113	0.000989±0.000049	0.346059±0.000875	0.000519±0.000012
1150	67.5±23.1	-3001	0.11	-14660	6.89E-16	0.53	-0.000472±0.000318	0.086675±0.000135	0.001114±0.000043	0.404004±0.001322	0.000064±0.000016
1225	110.6±23.5	14.27	0.11	-19013	1.21E-15	0.7	0.174663±0.000346	0.093154±0.000111	0.001308±0.000037	0.433227±0.001171	0.000628±0.000018
1300	143.0±27.7	9.13	0.11	1322	1.41E-15	0.85	0.316603±0.000385	0.083468±0.000123	0.001558±0.000026	0.400490±0.001383	0.001086±0.000019
1400	59.3±32.6	19.05	0.11	-19285	4.38E-16	0.96	0.047176±0.000352	0.062636±0.000119	0.000840±0.000032	0.304464±0.000560	0.000215±0.000017
1450	286.4±66.0	6.28	0.11	7767	6.91E-16	1	0.226092±0.000200	0.020474±0.000045	0.000417±0.000020	0.097282±0.000450	0.000744±0.000011

Packet IRR314-PB, Experiment #13Z0114, 0.1001 g Sanidine, all errors ±1 sigma
J = 0.000228265±4.07128E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.111 ± 1.923e-2, Calculated K2O = 0.45%wt., Calculated CaO = 4.98%wt., Calculated Cl = 4.8e-2ppm

Total Gas Age = 89.3 ± 10.3 ka

Weighted Mean Plateau Age = 78.6 ± 11.8 ka (±1 sigma, including ±J), 52.7% 39Ar released
Weighted Mean Plateau Age = 78.6 ± 11.8 ka (A priori, including ±J), 52.7% 39Ar released
Weighted Mean Plateau Age = 78.6 ± 11.8 ka (A priori, without ±J)
MSWD = 0.34 (Good fit, MSWD < 2.56)
Steps 6 of 11 (700,800,900,1000,1075,1150°C)

Isochron Age = 79.0 ± 13.9 ka (±1 sigma, including ±J)
Isochron Age = 79.0 ± 13.9 ka (A Priori Errors, including ±J)
Isochron Age = 79.0 ± 32.1 ka (95% confidence, including ±J)
MSWD = 0.40 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 295.3 ± 3.3 (±1 sigma)
40Ar/36Ar intercept = 295.3 ± 3.3 (A Priori)
40Ar/36Ar intercept = 295.3 ± 7.6 (95% confidence)
Steps 6 of 11 (700,800,900,1000,1075,1150°C)

M-355 Dacite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	55.88±6.22	15.59	3.04	17267	1.10E-15	0.05	0.257242±0.001548	0.283205±0.000198	0.003930±0.000045	0.048905±0.000396	0.000748±0.000014
600	60.87±3.70	23.13	5.82	-11299	2.57E-15	0.16	0.404510±0.001873	0.606492±0.000319	0.007937±0.000090	0.054699±0.000485	0.001066±0.000018
650	61.42±2.05	29.29	5.95	-10998	4.28E-15	0.35	0.535876±0.002344	1.008560±0.000379	0.013100±0.000198	0.088961±0.000459	0.001304±0.000016
700	60.46±2.14	29.13	5.45	-36545	7.79E-15	0.69	0.972903±0.005782	1.849719±0.000717	0.024527±0.000112	0.177966±0.000571	0.002377±0.000028
750	60.09±3.74	15.91	4.25	-11441	2.13E-15	0.79	0.492120±0.000310	0.514321±0.000261	0.006828±0.000053	0.063539±0.000395	0.001416±0.000016
800	57.33±4.26	9.94	2.95	-22879	2.05E-15	0.88	0.751568±0.000431	0.514240±0.000277	0.007091±0.000111	0.091337±0.000709	0.002314±0.000019
875	40.90±10.30	2.22	2.16	-27961	8.72E-16	0.94	1.428391±0.000572	0.306218±0.000207	0.004862±0.000045	0.074437±0.000526	0.004746±0.000027
950	-1.74±20.74	-0.03	1.74	7117	-1.86E-17	0.97	2.425460±0.000903	0.153347±0.000150	0.003643±0.000029	0.046218±0.000511	0.008223±0.000027
1025	75.67±45.48	0.79	1.42	1090	4.61E-16	0.98	2.116080±0.000742	0.087508±0.000112	0.002823±0.000034	0.032319±0.000450	0.007113±0.000034
1100	50.66±43.66	0.44	1.18	1485	3.08E-16	1	2.545587±0.000936	0.087435±0.000119	0.003006±0.000104	0.039000±0.000435	0.008587±0.000033

Packet IRR290-XU, Experiment #11z0125, 0.0649 g Dacite, all errors ±1 sigma
J = 0.000218737153±1.341E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 4.02%wt., Calculated CaO = 1.24%wt., Calculated Cl = -8.1e-2ppm

Total Gas Age = 57.3 ± 1.7 ka

Weighted Mean Plateau Age = 60.4 ± 1.2 ka (±1 sigma, including ±J), 88.2% 39Ar released
Weighted Mean Plateau Age = 60.4 ± 1.2 ka (A priori, without ±J)
MSWD = 0.26 (Good fit, MSWD < 2.56)
Steps 6 of 10 (550,600,650,700,750,800°C)

Isochron Age = 62.5 ± 2.6 ka (±1 sigma, including ±J)
Isochron Age = 62.5 ± 2.6 ka (A Priori Errors, including ±J)
Isochron Age = 62.5 ± 6.1 ka (95% confidence, including ±J)
MSWD = 0.13 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 292.5 ± 3.3 (±1 sigma)
40Ar/36Ar intercept = 292.5 ± 3.3 (A Priori)
40Ar/36Ar intercept = 292.5 ± 7.7 (95% confidence)
Steps 6 of 10 (550,600,650,700,750,800°C)

M-359 Plag

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar

600	33.23±17.55	1.45	0.33	2636	2.99E-16	0.01	0.750092±0.001672	0.101688±0.000205	0.001935±0.000027	0.161667±0.001149	0.002547±0.000017
700	34.29±6.73	4.71	0.29	4166	8.57E-16	0.05	0.661486±0.001768	0.282889±0.000568	0.004315±0.000038	0.512660±0.002982	0.002277±0.000019
800	40.61±2.99	14	0.29	5818	2.22E-15	0.13	0.576719±0.001600	0.618671±0.001241	0.008697±0.000045	1.118938±0.003515	0.001993±0.000019
900	31.48±1.65	22.63	0.32	6864	2.90E-15	0.27	0.466124±0.001380	1.042514±0.002091	0.014233±0.000129	1.720035±0.003946	0.001704±0.000017
975	36.85±1.39	44.73	0.38	5287	3.76E-15	0.43	0.308519±0.001067	1.164661±0.002336	0.015964±0.000080	1.612621±0.007248	0.001030±0.000017
1050	47.38±1.24	55.09	0.5	5587	5.08E-15	0.59	0.335736±0.001121	1.213661±0.002434	0.016556±0.000087	1.265417±0.003823	0.000866±0.000016
1125	67.48±1.21	77.03	0.83	4585	6.17E-15	0.72	0.291404±0.001033	1.033848±0.002074	0.014228±0.000077	0.654084±0.002133	0.000410±0.000013
1200	153.89±1.11	89.08	2.09	6843	1.91E-14	0.91	0.782303±0.002009	1.407031±0.002822	0.018913±0.000171	0.353024±0.001737	0.000388±0.000015
1300	1087.79±5.24	84.05	0.95	4923	4.34E-14	0.97	1.880690±0.004203	0.451495±0.000906	0.006355±0.000074	0.249788±0.001820	0.001085±0.000017
1400	645.73±6.50	89.01	0.57	5817	1.26E-14	1	0.515154±0.001477	0.220716±0.000443	0.003022±0.000049	0.204113±0.001687	0.000249±0.000014

Packet IRR281-SP, Experiment #10Z0212, 0.2016 g Plag, all errors ±1 sigma
J = 0.000172204±3.44E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 2.29%wt., Calculated CaO = 5.57%wt., Calculated Cl = 0.5ppm

Total Gas Age = 144.9 ± 0.8 ka

Maximum Age = 35.3 ± 1.6 ka (±1 sigma, including ±J), 42.5% 39Ar released
Maximum Age = 35.3 ± 1.0 ka (A priori, without ±J)
MSWD = 2.45 (Good fit, MSWD < 2.77)
Steps 5 of 10 (600,700,800,900,975°C)

Isochron Age = 35.005 ± 2.221 ka (±1 sigma, including ±J)
Isochron Age = 35.005 ± 1.336 ka (A Priori Errors, including ±J)
Isochron Age = 35.005 ± 5.249 ka (95% confidence, including ±J)
MSWD = 2.77 (Good fit, MSWD < 3.12)
40Ar/36Ar intercept = 295.7 ± 2.9 (±1 sigma)
40Ar/36Ar intercept = 295.7 ± 1.7 (A Priori)
40Ar/36Ar intercept = 295.7 ± 6.8 (95% confidence)
Steps 5 of 10 (600,700,800,900,975°C)

M-365 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	115.41±12.77	5.48	0.27	5275	2.00E-15	0.04	1.329698±0.002715	0.217099±0.000436	0.003754±0.000027	0.428128±0.002087	0.004373±0.000022
600	119.55±7.88	11.48	0.3	4701	3.52E-15	0.1	1.116235±0.003180	0.368454±0.000740	0.005682±0.000055	0.640687±0.001783	0.003524±0.000024
650	118.97±5.13	14.54	0.37	5957	6.50E-15	0.21	1.626158±0.004197	0.682988±0.001370	0.010115±0.000081	0.958788±0.003288	0.004972±0.000028
700	115.84±4.12	16.85	0.48	8400	8.86E-15	0.36	1.914982±0.004774	0.956742±0.001919	0.013738±0.000095	1.046983±0.003726	0.005683±0.000031
750	117.05±3.42	19.34	0.56	7199	1.04E-14	0.54	1.977354±0.004898	1.122143±0.002251	0.016032±0.000075	1.043105±0.003553	0.005691±0.000029
800	125.74±3.81	21.03	0.55	6201	1.09E-14	0.72	1.907801±0.005291	1.096022±0.002199	0.015732±0.000080	1.047601±0.002439	0.005393±0.000033
850	132.92±4.65	17.8	0.46	6367	8.54E-15	0.85	1.747122±0.004970	0.803706±0.001613	0.011735±0.000093	0.919784±0.002318	0.005118±0.000029
900	120.93±10.91	8.22	0.36	3196	4.11E-15	0.92	1.819709±0.005115	0.425232±0.000854	0.007072±0.000106	0.623651±0.002417	0.005827±0.000039
975	134.16±17.00	4.58	0.33	1916	3.10E-15	0.97	2.463332±0.006400	0.289196±0.000581	0.005838±0.000081	0.454412±0.002682	0.008082±0.000037
1050	187.36±31.22	3.37	0.14	777	2.35E-15	0.99	2.541341±0.006555	0.157157±0.000317	0.004441±0.000059	0.597457±0.002803	0.008478±0.000035
1150	324.67±122.41	1.7	0.01	323	8.76E-16	1	1.877873±0.005231	0.034854±0.000082	0.002099±0.000050	1.605686±0.004797	0.006698±0.000031

Packet IRR281-SU, Experiment #10Z0206, 0.2026 g Basalt, all errors ±1 sigma
J = 0.000190259±3.81E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.68%wt., Calculated CaO = 5.98%wt., Calculated Cl = 0.4ppm

Total Gas Age = 124.8 ± 1.9 ka

Weighted Mean Plateau Age = 121.4 ± 2.1 ka (±1 sigma, including ±J), 96.9% 39Ar released
Weighted Mean Plateau Age = 121.4 ± 1.7 ka (A priori, without ±J)
MSWD = 1.49 (Good fit, MSWD < 2.19)
Steps 9 of 11 (550,600,650,700,750,800,850,900,975°C)

Isochron Age = 120.216 ± 4.766 ka (±1 sigma, including ±J)
Isochron Age = 120.216 ± 3.382 ka (A Priori Errors, including ±J)
Isochron Age = 120.216 ± 10.980 ka (95% confidence, including ±J)
MSWD = 1.99 (Good fit, MSWD < 2.29)
40Ar/36Ar intercept = 296.0 ± 1.9 (±1 sigma)
40Ar/36Ar intercept = 296.0 ± 1.4 (A Priori)
40Ar/36Ar intercept = 296.0 ± 4.5 (95% confidence)
Steps 9 of 11 (550,600,650,700,750,800,850,900,975°C)

M-374 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	74.58±17.34	7.25	0.33	697	4.44E-16	0.02	0.223015±0.000634	0.070509±0.000144	0.001468±0.000022	0.111904±0.000892	0.000731±0.000012
700	80.04±7.03	14.74	0.34	6244	1.48E-15	0.06	0.364682±0.001129	0.218571±0.000439	0.003146±0.000036	0.338855±0.001319	0.001147±0.000015
800	82.04±3.41	22.38	0.34	6536	3.66E-15	0.18	0.594714±0.001586	0.527805±0.001059	0.007398±0.000077	0.811959±0.003237	0.001790±0.000017
900	83.23±1.83	37.83	0.34	7354	6.85E-15	0.4	0.665130±0.001726	0.983615±0.001973	0.013432±0.000080	1.503796±0.005839	0.001822±0.000017
1000	83.73±1.41	42.62	0.34	8295	8.53E-15	0.67	0.728374±0.001563	1.206345±0.002419	0.016337±0.000094	1.854032±0.004549	0.001935±0.000016
1075	90.25±2.22	31.32	0.34	3872	5.53E-15	0.83	0.642741±0.001392	0.725667±0.001456	0.010376±0.000034	1.112789±0.003144	0.001807±0.000015
1150	125.73±5.20	24.85	0.35	5293	2.73E-15	0.89	0.400089±0.000908	0.257228±0.000516	0.003693±0.000040	0.387891±0.001241	0.001127±0.000013
1225	386.15±6.88	38.32	0.34	5378	7.20E-15	0.94	0.683613±0.001473	0.220689±0.000443	0.003269±0.000045	0.341157±0.001244	0.001523±0.000014
1325	282.36±5.71	44.82	0.29	7838	4.72E-15	0.99	0.383676±0.000825	0.198155±0.000398	0.002781±0.000038	0.353429±0.001163	0.000816±0.000011
1450	137.68±17.49	12.65	0.28	6673	7.70E-16	1	0.223336±0.000506	0.066765±0.000134	0.001022±0.000019	0.123963±0.001079	0.000695±0.000012

Packet IRR281-SO, Experiment #10Z0205, 0.1924 g Fldspr, all errors ±1 sigma
J = 0.00018015±3.60E-07

40Ar* is radiogenic argon, isotopes in volts (2.72e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 1.36%wt., Calculated CaO = 4.93%wt., Calculated Cl = 0.3ppm

Total Gas Age = 111.1 ± 1.1 ka

Weighted Mean Plateau Age = 83.3 ± 1.1 ka (±1 sigma, including ±J), 67.1% 39Ar released
Weighted Mean Plateau Age = 83.3 ± 1.0 ka (A priori, without ±J)
MSWD = 0.17 (Good fit, MSWD < 2.77)
Steps 5 of 10 (600,700,800,900,1000°C)

Isochron Age = 84.803 ± 2.238 ka (±1 sigma, including ±J)
Isochron Age = 84.803 ± 2.238 ka (A Priori Errors, including ±J)
Isochron Age = 84.803 ± 5.280 ka (95% confidence, including ±J)
MSWD = 0.00 (Good fit, MSWD < 3.12)
40Ar/36Ar intercept = 292.5 ± 3.7 (±1 sigma)
40Ar/36Ar intercept = 292.5 ± 3.7 (A Priori)
40Ar/36Ar intercept = 292.5 ± 8.7 (95% confidence)
Steps 5 of 10 (600,700,800,900,1000°C)

M-375 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	26.2±47.0	0.81	0.16	-17211	6.55E-17	0.04	0.293046±0.000790	0.038447±0.000082	0.000682±0.000043	0.125611±0.000524	0.001019±0.000014
700	60.5±36.2	4.53	0.13	3458	2.80E-16	0.12	0.224719±0.000549	0.071199±0.000107	0.001166±0.000022	0.282758±0.000879	0.000805±0.000020
800	77.2±16.7	8.39	0.13	5491	5.46E-16	0.24	0.236797±0.000329	0.108875±0.000122	0.001663±0.000072	0.453656±0.000973	0.000861±0.000014
900	77.0±10.2	13.33	0.13	-733078	8.98E-16	0.43	0.245393±0.000303	0.179733±0.000172	0.002513±0.000048	0.746851±0.000636	0.000929±0.000014
1000	94.2±9.8	20.15	0.13	6314	1.24E-15	0.65	0.223387±0.000277	0.202284±0.000195	0.002927±0.000069	0.824568±0.001940	0.000835±0.000015
1100	104.2±13.4	16.69	0.13	2692	9.10E-16	0.79	0.198367±0.000295	0.134452±0.000128	0.002098±0.000035	0.559652±0.000959	0.000716±0.000014
1200	215.0±28.6	23.85	0.12	9629	8.43E-16	0.86	0.128712±0.000344	0.060411±0.000088	0.000889±0.000063	0.257322±0.000755	0.000404±0.000014
1300	652.8±24.0	43.68	0.12	-4983	3.02E-15	0.93	0.251745±0.000362	0.071298±0.000088	0.000973±0.000053	0.315323±0.000900	0.000568±0.000013
1400	444.7±30.4	25.74	0.11	5204	1.77E-15	1	0.250253±0.000410	0.061320±0.000097	0.000980±0.000060	0.279161±0.000804	0.000707±0.000015

Packet IRR290-XZ, Experiment #11z0129, 0.0546 g Feldspar, all errors ±1 sigma
J = 0.000233910611±1.265E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 0.77%wt., Calculated CaO = 7.43%wt., Calculated Cl = 0.1ppm

Total Gas Age = 158.9 ± 5.9 ka

Weighted Mean Plateau Age = 86.7 ± 6.1 ka (±1 sigma, including ±J), 79.2% 39Ar released
Weighted Mean Plateau Age = 86.7 ± 5.7 ka (A priori, without ±J)
MSWD = 1.14 (Good fit, MSWD < 2.56)
Steps 6 of 9 (600,700,800,900,1000,1100°C)

Isochron Age = 100.1 ± 10.1 ka (±1 sigma, including ±J)
Isochron Age = 100.1 ± 10.1 ka (A Priori Errors, including ±J)
Isochron Age = 100.1 ± 24.8 ka (95% confidence, including ±J)
MSWD = 0.75 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 288.1 ± 4.4 (±1 sigma)
40Ar/36Ar intercept = 288.1 ± 4.4 (A Priori)
40Ar/36Ar intercept = 288.1 ± 10.9 (95% confidence)
Steps 6 of 9 (600,700,800,900,1000,1100°C)

M-392 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	49.41±46.30	2.52	0.46	9794	1.03E-16	0.01	0.148055±0.000471	0.031893±0.000072	0.000525±0.000016	0.036076±0.000149	0.000498±0.000012
700	57.19±15.38	5.39	0.48	-63082	4.57E-16	0.07	0.308775±0.000615	0.122842±0.000168	0.001794±0.000036	0.133785±0.000595	0.001026±0.000015
800	55.37±7.56	8.73	0.51	19916	9.29E-16	0.17	0.387428±0.000664	0.257884±0.000184	0.003674±0.000049	0.263805±0.001644	0.001270±0.000015
875	58.07±6.82	12.71	0.54	8869	1.10E-15	0.3	0.314792±0.000561	0.290890±0.000175	0.004143±0.000033	0.280799±0.001106	0.001008±0.000016
950	57.83±5.93	12.95	0.57	14115	1.27E-15	0.44	0.356479±0.000687	0.336821±0.000258	0.004732±0.000038	0.311926±0.001033	0.001137±0.000016
1025	62.65±5.95	11.21	0.61	3602	1.47E-15	0.59	0.480942±0.000394	0.363227±0.000289	0.005483±0.000049	0.311011±0.000704	0.001531±0.000017
1100	67.70±6.64	14.88	0.66	6827	1.16E-15	0.71	0.285595±0.000484	0.264948±0.000183	0.003806±0.000031	0.211294±0.000903	0.000881±0.000014
1175	66.97±9.31	13.83	0.91	-140925	7.56E-16	0.78	0.198937±0.000413	0.173391±0.000175	0.002384±0.000038	0.099416±0.000558	0.000607±0.000013
1250	95.55±8.86	26.06	0.84	49704	1.14E-15	0.86	0.160503±0.000421	0.184739±0.000160	0.002521±0.000036	0.116034±0.000557	0.000434±0.000013
1350	121.59±6.30	35.38	0.59	41980	1.91E-15	0.96	0.196740±0.000335	0.241591±0.000188	0.003284±0.000042	0.212979±0.001035	0.000489±0.000012
1450	157.04±21.74	19.12	0.5	123350	9.95E-16	1	0.189528±0.002091	0.097379±0.000171	0.001382±0.000028	0.101503±0.000642	0.000547±0.000015

Packet IRR290-XY, Experiment #11Z0123a, 0.0486 g Feldspar, all errors ±1 sigma
J = 0.000233808124±1.189E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 2.19%wt., Calculated CaO = 4.50%wt., Calculated Cl = 0.2ppm

Total Gas Age = 73.5 ± 2.5 ka

Weighted Mean Plateau Age = 61.0 ± 2.7 ka (±1 sigma, including ±J), 77.9% 39Ar released
Weighted Mean Plateau Age = 61.0 ± 2.7 ka (A priori, without ±J)
MSWD = 0.38 (Good fit, MSWD < 2.29)
Steps 8 of 11 (600,700,800,875,950,1025,1100,1175°C)

Isochron Age = 65.2 ± 9.0 ka (±1 sigma, including ±J)
Isochron Age = 65.2 ± 9.0 ka (A Priori Errors, including ±J)
Isochron Age = 65.2 ± 20.7 ka (95% confidence, including ±J)
MSWD = 0.39 (Good fit, MSWD < 2.40)
40Ar/36Ar intercept = 292.7 ± 5.5 (±1 sigma)
40Ar/36Ar intercept = 292.7 ± 5.5 (A Priori)
40Ar/36Ar intercept = 292.7 ± 12.6 (95% confidence)
Steps 8 of 11 (600,700,800,875,950,1025,1100,1175°C)

M-395 Plag

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
700	88.88±6.09	17.04	0.59	4370	2.10E-15	0.04	0.449566±0.001110	0.303934±0.000613	0.004422±0.000051	0.269989±0.002204	0.001338±0.000017
800	79.84±2.45	26.84	0.62	6214	4.56E-15	0.14	0.618122±0.001522	0.732991±0.001470	0.010167±0.000040	0.619314±0.004252	0.001704±0.000015
900	80.71±1.29	43.7	0.63	7003	8.94E-15	0.32	0.744438±0.001773	1.421783±0.002851	0.019320±0.000092	1.178372±0.004087	0.001749±0.000015
975	79.76±1.13	48.05	0.63	6820	9.65E-15	0.53	0.730972±0.001519	1.553041±0.003115	0.021080±0.000128	1.287478±0.003149	0.001647±0.000015
1050	79.23±1.34	37.11	0.63	7534	9.49E-15	0.73	0.930889±0.001919	1.537657±0.003084	0.020912±0.000084	1.276026±0.004703	0.002340±0.000017
1125	70.31±4.11	9.06	0.65	4730	4.56E-15	0.84	1.849102±0.003755	0.840416±0.001686	0.012574±0.000086	0.673958±0.002916	0.005880±0.000025
1200	74.33±6.39	5.69	0.64	10156	3.68E-15	0.93	2.356287±0.004769	0.635827±0.001276	0.009806±0.000053	0.518493±0.001321	0.007666±0.000028
1300	90.13±7.77	8.13	0.48	7107	2.11E-15	0.97	0.943038±0.001943	0.299998±0.000602	0.004568±0.000045	0.326821±0.001904	0.003024±0.000019
1400	86.06±8.11	7.9	0.56	14481	1.68E-15	1	0.779343±0.001616	0.252258±0.000506	0.003756±0.000039	0.237426±0.002129	0.002496±0.000017

Packet IRR281-SK, Experiment #10Z0210, 0.2046 g Plag, all errors ±1 sigma
J = 0.000195385±3.91E-07

40Ar* is radiogenic argon, isotopes in volts (2.72e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 2.00%wt., Calculated CaO = 3.94%wt., Calculated Cl = 0.3ppm

Total Gas Age = 79.3 ± 0.9 ka

Weighted Mean Plateau Age = 79.9 ± 0.7 ka (±1 sigma, including ±J), 69.3% 39Ar released
Weighted Mean Plateau Age = 79.9 ± 0.7 ka (A priori, without ±J)
MSWD = 0.22 (Good fit, MSWD < 3.12)
Steps 4 of 9 (800,900,975,1050°C)

Isochron Age = 80.308 ± 2.358 ka (±1 sigma, including ±J)
Isochron Age = 80.308 ± 2.358 ka (A Priori Errors, including ±J)
Isochron Age = 80.308 ± 5.760 ka (95% confidence, including ±J)
MSWD = 0.29 (Good fit, MSWD < 3.69)
40Ar/36Ar intercept = 294.4 ± 5.7 (±1 sigma)
40Ar/36Ar intercept = 294.4 ± 5.7 (A Priori)
40Ar/36Ar intercept = 294.4 ± 14.0 (95% confidence)
Steps 4 of 9 (800,900,975,1050°C)

M-400 Plag

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
650	158.4±48.1	5.72	0.19	2761	3.50E-16	0.04	0.223122±0.000207	0.031629±0.000072	0.000600±0.000047	0.085267±0.000354	0.000736±0.000013
750	52.4±22.7	3.94	0.18	8453	2.73E-16	0.13	0.251926±0.000214	0.074365±0.000097	0.001173±0.000037	0.210689±0.001096	0.000878±0.000014
850	45.5±14.2	5.56	0.18	12353	3.94E-16	0.28	0.258272±0.000290	0.123866±0.000140	0.001833±0.000076	0.367033±0.000916	0.000928±0.000015
950	61.9±10.5	11.73	0.17	-24209	7.17E-16	0.49	0.222594±0.000253	0.165667±0.000146	0.002284±0.000069	0.508027±0.001248	0.000807±0.000015
1050	69.9±11.4	11.32	0.17	1957	7.47E-16	0.67	0.240214±0.000282	0.152823±0.000119	0.002488±0.000027	0.474463±0.003030	0.000854±0.000015
1150	116.4±18.8	12.48	0.16	12492	7.12E-16	0.78	0.207525±0.000234	0.087403±0.000123	0.001300±0.000040	0.281511±0.000353	0.000693±0.000014
1250	1342.0±33.6	21.25	0.18	98164	6.30E-15	0.86	1.079637±0.000394	0.067112±0.000109	0.001427±0.000024	0.192821±0.000936	0.002931±0.000019
1400	189.8±15.1	18.91	0.16	20158	1.49E-15	1	0.286518±0.000674	0.112178±0.000131	0.001654±0.000051	0.378300±0.001454	0.000892±0.000014

Packet IRR290-XV, Experiment #11z0126, 0.0475 g Plag, all errors ±1 sigma
J = 0.000217274707±1.318E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 0.83%wt., Calculated CaO = 5.97%wt., Calculated Cl = 0.1ppm

Total Gas Age = 192.7 ± 5.8 ka

Weighted Mean Plateau Age = 60.3 ± 6.5 ka (±1 sigma, including ±J), 63.4% 39Ar released
Weighted Mean Plateau Age = 60.3 ± 6.5 ka (A priori, without ±J)
MSWD = 0.65 (Good fit, MSWD < 3.12)
Steps 4 of 8 (750,850,950,1050°C)

Isochron Age = 74.5 ± 18.7 ka (±1 sigma, including ±J)
Isochron Age = 74.5 ± 18.7 ka (A Priori Errors, including ±J)
Isochron Age = 74.5 ± 48.0 ka (95% confidence, including ±J)
MSWD = 0.66 (Good fit, MSWD < 3.69)
40Ar/36Ar intercept = 288.7 ± 8.3 (±1 sigma)
40Ar/36Ar intercept = 288.7 ± 8.3 (A Priori)
40Ar/36Ar intercept = 288.7 ± 21.4 (95% confidence)
Steps 4 of 8 (750,850,950,1050°C)

M-410 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	35.5±5.7	9.61	0.62	-4349	6.29E-16	0.05	0.284402±0.000214	0.276989±0.000240	0.003535±0.000068	0.235724±0.001536	0.000936±0.000015
600	28.7±6.0	8.12	0.64	-5103	4.18E-16	0.09	0.223934±0.000751	0.227435±0.000217	0.002932±0.000056	0.186754±0.000332	0.000749±0.000013
650	29.8±2.0	10.71	0.77	-6284	2.04E-15	0.28	0.827651±0.000449	1.070603±0.000551	0.013822±0.000086	0.732855±0.003545	0.002707±0.000020
700	31.1±1.7	11.06	0.83	-8951	2.03E-15	0.47	0.796460±0.000386	1.019083±0.000566	0.013366±0.000117	0.640192±0.000923	0.002577±0.000015
750	28.5±2.4	8.14	0.71	-12219	1.46E-15	0.61	0.780950±0.000289	0.802135±0.000369	0.010726±0.000055	0.589607±0.001601	0.002593±0.000018
800	32.8±3.3	7.17	0.57	-12071	1.25E-15	0.72	0.764354±0.000417	0.600887±0.000399	0.008144±0.000055	0.553553±0.001742	0.002557±0.000018
850	39.2±4.2	7.16	0.47	-42583	9.82E-16	0.79	0.595893±0.000355	0.391677±0.000333	0.005467±0.000046	0.434804±0.000896	0.001994±0.000015
925	35.9±4.5	5.39	0.36	-9655	1.21E-15	0.88	0.972289±0.000411	0.525026±0.000269	0.007266±0.000049	0.768453±0.000890	0.003329±0.000021
1000	27.6±6.7	3.02	0.27	216606	5.52E-16	0.94	0.793571±0.000338	0.312930±0.000308	0.004619±0.000049	0.604298±0.001444	0.002774±0.000019
1075	29.6±8.3	2.65	0.23	3543	3.84E-16	0.97	0.628722±0.000367	0.202653±0.000204	0.003306±0.000041	0.465653±0.001862	0.002202±0.000015
1150	18.2±11.1	1.44	0.19	2957	1.75E-16	1	0.525881±0.000265	0.150045±0.000208	0.002527±0.000040	0.420755±0.001686	0.001872±0.000015

Packet IRR307-KC, Experiment #12Z0240_288.34, 0.1813 g Basalt, all errors ±1 sigma
J = 0.0001992069715±1.39E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.519 ± 0.165, Calculated K2O = 1.37%wt., Calculated CaO = 3.22%wt., Calculated Cl = -0.1ppm

Total Gas Age = 31.2 ± 1.1 ka

Weighted Mean Plateau Age = 31.1 ± 1.0 ka (±1 sigma, including ±J), 100.0% 39Ar released
Weighted Mean Plateau Age = 31.1 ± 1.0 ka (A priori, including ±J), 100.0% 39Ar released
Weighted Mean Plateau Age = 31.1 ± 1.0 ka (A priori, without ±J)
MSWD = 0.91 (Good fit, MSWD < 2.05)
Steps 11 of 11 (550,600,650,700,750,800,850,925,1000,1075,1150°C)

Isochron Age = 30.5 ± 2.1 ka (±1 sigma, including ±J)
Isochron Age = 30.5 ± 2.1 ka (A Priori Errors, including ±J)
Isochron Age = 30.5 ± 4.9 ka (95% confidence, including ±J)
MSWD = 0.99 (Good fit, MSWD < 2.11)
40Ar/36Ar intercept = 295.9 ± 1.6 (±1 sigma)
40Ar/36Ar intercept = 295.9 ± 1.6 (A Priori)
40Ar/36Ar intercept = 295.9 ± 3.8 (95% confidence)
Steps 11 of 11 (550,600,650,700,750,800,850,925,1000,1075,1150°C)

M-411 Sanidine

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	-20.2±117.6	-0.73	3.48	1950	-2.14E-17	0	0.060220±0.000213	0.008624±0.000042	0.000171±0.000016	0.001300±0.000094	0.000206±0.000009
650	129.8±27.7	7.47	3.15	-18783	7.32E-16	0.01	0.201168±0.000304	0.045867±0.000069	0.000710±0.000026	0.007634±0.000080	0.000632±0.000011
750	74.8±10.4	9.18	3.44	13387	1.08E-15	0.03	0.241705±0.000341	0.117579±0.000109	0.001722±0.000044	0.017915±0.000531	0.000747±0.000010
800	65.1±25.2	12.35	3.68	2704	3.09E-16	0.03	0.051342±0.000436	0.038596±0.000073	0.000597±0.000026	0.005500±0.000043	0.000154±0.000008
805	61.5±8.3	13.16	3.55	-8411	9.90E-16	0.05	0.154566±0.000175	0.130956±0.000133	0.001739±0.000025	0.019332±0.000132	0.000459±0.000009
875	71.1±4.1	21.6	4	-7465	2.28E-15	0.1	0.216464±0.000198	0.260615±0.000195	0.003383±0.000044	0.034145±0.000503	0.000583±0.000009
950	64.8±3.0	26.05	4.67	-13815	3.39E-15	0.16	0.266931±0.000160	0.425015±0.000231	0.005578±0.000047	0.047754±0.000476	0.000680±0.000011
1000	61.6±2.6	32.21	5.55	-21259	3.64E-15	0.24	0.232140±0.000181	0.480876±0.000309	0.006322±0.000046	0.045462±0.000290	0.000544±0.000011
1050	63.7±2.3	38.56	5.64	-19320	4.12E-15	0.33	0.219239±0.000180	0.525579±0.000319	0.006875±0.000117	0.048883±0.000430	0.000468±0.000010
1100	64.5±1.8	44.26	6.46	-13844	4.64E-15	0.42	0.215435±0.000230	0.585604±0.000341	0.007590±0.000057	0.047543±0.000442	0.000418±0.000009
1150	64.1±1.6	47.47	7.89	-11941	5.13E-15	0.52	0.222023±0.000194	0.651119±0.000326	0.008396±0.000123	0.043297±0.000334	0.000405±0.000009
1200	63.4±1.6	44.72	8.68	-37406	4.98E-15	0.63	0.228733±0.000183	0.638992±0.000291	0.008404±0.000108	0.038617±0.000179	0.000437±0.000009
1250	66.6±1.8	49.2	8.46	-15685	5.20E-15	0.73	0.216875±0.000153	0.634999±0.000360	0.008240±0.000059	0.039386±0.000337	0.000382±0.000010
1300	76.9±1.8	54.15	9.22	-59250	5.10E-15	0.82	0.193501±0.000178	0.540011±0.000315	0.007113±0.000062	0.030746±0.000286	0.000307±0.000008
1350	77.2±1.6	49.17	9.76	-10072	6.38E-15	0.92	0.266425±0.000166	0.671903±0.000320	0.008629±0.000102	0.036105±0.000284	0.000466±0.000009
1400	79.7±2.3	38.08	7.46	-11768	4.63E-15	1	0.249878±0.000217	0.473075±0.000327	0.006142±0.000031	0.033260±0.000395	0.000531±0.000009

Packet IRR314-PF, Experiment #13Z0126, 0.0992 g Sanidine, all errors ±1 sigma
J = 0.000219599065305±3.10708E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 6.578 ± 6.506, Calculated K2O = 5.36%wt., Calculated CaO = 1.00%wt., Calculated Cl = -0.4ppm

Total Gas Age = 68.7 ± 0.7 ka

Weighted Mean Plateau Age = 64.5 ± 0.8 ka (±1 sigma, including ±J), 72.8% 39Ar released
Weighted Mean Plateau Age = 64.5 ± 0.7 ka (A priori, including ±J), 72.8% 39Ar released
Weighted Mean Plateau Age = 64.5 ± 0.7 ka (A priori, without ±J)
MSWD = 1.14 (Good fit, MSWD < 1.99)
Steps 12 of 16 (650,750,800,805,875,950,1000,1050,1100,1150,1200,1250°C)

Isochron Age = 62.5 ± 1.2 ka (±1 sigma, including ±J)
Isochron Age = 62.5 ± 1.2 ka (A Priori Errors, including ±J)
Isochron Age = 62.5 ± 2.6 ka (95% confidence, including ±J)
MSWD = 0.78 (Good fit, MSWD < 2.05)
40Ar/36Ar intercept = 301.1 ± 2.8 (±1 sigma)
40Ar/36Ar intercept = 301.1 ± 2.8 (A Priori)
40Ar/36Ar intercept = 301.1 ± 6.0 (95% confidence)
Steps 12 of 16 (650,750,800,805,875,950,1000,1050,1100,1150,1200,1250°C)

M-413 Sanidine

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	227.1±223.6	3.61	-6.4	-317	2.70E-16	0	0.050447±0.000218	0.003148±0.000033	0.000030±0.000037	-0.000258±0.000207	0.000164±0.000006
700	393.2±286.1	20.61	-53.63	-3912	2.17E-15	0.01	0.070976±0.000136	0.014590±0.000052	0.000211±0.000035	-0.000143±0.000249	0.000191±0.000036
800	29.7±31.7	4.18	42.2	-2918	4.34E-16	0.02	0.070806±0.000116	0.038985±0.000056	0.000498±0.000025	0.000485±0.000266	0.000230±0.000011
900	-89.3±77.1	-26.89	26.59	-3424	-3.55E-15	0.07	0.089902±0.000394	0.106211±0.000359	0.001335±0.000139	0.002096±0.000748	0.000386±0.000071
975	24.2±17.3	11.67	24.07	-69714	1.18E-15	0.13	0.068255±0.000131	0.129335±0.000117	0.001730±0.000051	0.002820±0.000621	0.000204±0.000019
1050	20.2±7.0	14.63	44.43	-8646	1.57E-15	0.22	0.072468±0.000566	0.206213±0.000185	0.002646±0.000094	0.002435±0.000244	0.000209±0.000012
1125	41.6±4.0	39.42	41.4	-7434	4.72E-15	0.35	0.080920±0.000090	0.301104±0.000232	0.003814±0.000045	0.003816±0.000230	0.000166±0.000010
1175	39.2±3.0	31.78	35.66	101307	3.93E-15	0.46	0.083623±0.000112	0.265754±0.000192	0.003539±0.000028	0.003910±0.000403	0.000193±0.000007
1225	43.6±2.1	60.97	37.36	-7257	5.32E-15	0.6	0.058934±0.000110	0.323023±0.000251	0.004068±0.000076	0.004536±0.000210	0.000078±0.000006
1275	39.2±1.3	67.51	38.53	-8862	9.14E-15	0.87	0.091472±0.000122	0.618425±0.000457	0.007845±0.000054	0.008422±0.000229	0.000101±0.000007
1325	41.2±2.8	68.92	25.76	-11439	3.59E-15	0.97	0.035190±0.000106	0.231037±0.000238	0.002956±0.000030	0.004706±0.000223	0.000038±0.000006
1375	38.3±22.6	27.62	16.03	4371	5.49E-16	0.99	0.013430±0.000296	0.038025±0.000257	0.000543±0.000034	0.001245±0.000255	0.000033±0.000007
1450	85.7±28.1	46.95	13.76	-6198	7.60E-16	1	0.010935±0.000083	0.023485±0.000050	0.000296±0.000017	0.000895±0.000210	0.000020±0.000006

Packet IRR326-VW, Experiment #14Z0083, 0.0511 g Sanidine, all errors ±1 sigma
J = 0.000217427481008888±4.5071460E-07

40Ar* is radiogenic argon, isotopes in volts (1.48e-13 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 34.504 ± 102.629, Calculated K2O = 11.79%wt., Calculated CaO = 0.42%wt., Calculated Cl = -1.4ppm

Total Gas Age = 34.6 ± 4.3 ka

Weighted Mean Plateau Age = 40.4 ± 0.9 ka (±1 sigma, including ±J), 77.3% 39Ar released
Weighted Mean Plateau Age = 40.4 ± 0.9 ka (A priori, including ±J), 77.3% 39Ar released
Weighted Mean Plateau Age = 40.4 ± 1.8 ka (95% confidence, including ±J)
MSWD = 0.72 (Good fit, MSWD < 2.56)

Steps 6 of 13 (1125,1175,1225,1275,1325,1375°C)

Isochron Age = 39.8 ± 1.6 ka (±1 sigma, including ±J)
Isochron Age = 39.8 ± 1.6 ka (A Priori Errors, including ±J)
Isochron Age = 39.8 ± 3.6 ka (95% confidence, including ±J)
MSWD = 0.78 (Good fit, MSWD < 2.77)
40Ar/36Ar intercept = 298.3 ± 13.3 (±1 sigma)
40Ar/36Ar intercept = 298.3 ± 13.3 (A Priori)
40Ar/36Ar intercept = 298.3 ± 29.7 (95% confidence)
Steps 6 of 13 (1125,1175,1225,1275,1325,1375°C)

M-416 Sanidine

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
700	45.31±9.70	7.81	8.05	5923	4.76E-16	0.01	0.221917±0.000556	0.132128±0.000265	0.001913±0.000035	0.008613±0.000559	0.000695±0.000012
800	29.14±3.31	17.98	17.73	8476	8.95E-16	0.05	0.182835±0.000669	0.389471±0.000781	0.005266±0.000059	0.011525±0.000612	0.000511±0.000012
900	34.77±1.79	30.73	20.24	6356	2.31E-15	0.12	0.275524±0.000851	0.841143±0.001687	0.011431±0.000068	0.021810±0.000906	0.000652±0.000014
975	30.98±1.10	44.59	24.86	8654	2.92E-15	0.23	0.238278±0.000778	1.184181±0.002375	0.015793±0.000123	0.024995±0.000503	0.000454±0.000012
1050	35.73±1.06	36.61	25.87	4353	4.24E-15	0.37	0.421293±0.001139	1.490563±0.002989	0.020674±0.000077	0.030228±0.000718	0.000912±0.000015
1125	39.36±0.67	55.83	32.64	5809	5.75E-15	0.53	0.374914±0.000851	1.836130±0.003682	0.024909±0.000115	0.029518±0.000764	0.000569±0.000011
1200	40.25±0.38	65.65	26.43	6963	1.10E-14	0.84	0.610737±0.001321	3.439941±0.006898	0.046183±0.000187	0.068297±0.001009	0.000729±0.000011
1250	37.74±0.82	62.52	29.09	6851	3.45E-15	0.95	0.200793±0.000505	1.148745±0.002304	0.015437±0.000046	0.020718±0.000623	0.000260±0.000009
1300	35.65±2.24	49.02	19.14	6545	1.09E-15	0.98	0.081092±0.000273	0.385017±0.000773	0.005196±0.000055	0.010553±0.000498	0.000143±0.000008
1400	35.78±5.42	20.87	11.95	9077	5.50E-16	1	0.095962±0.000301	0.193286±0.000388	0.002608±0.000043	0.008485±0.000435	0.000259±0.000010

Packet IRR281-SL, Experiment #10Z0214, 0.0532 g Sanidine, all errors ±1 sigma
J = 0.000191418±3.83E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 11.46%wt., Calculated CaO = 0.57%wt., Calculated Cl = 2.0ppm

Total Gas Age = 37.3 ± 0.3 ka

Weighted Mean Plateau Age = 39.6 ± 0.5 ka (±1 sigma, including ±J), 63.5% 39Ar released
Weighted Mean Plateau Age = 39.6 ± 0.3 ka (A priori, without ±J)
MSWD = 2.95 (Poor fit, MSWD > 2.77)
Steps 5 of 10 (1125,1200,1250,1300,1400°C)

Isochron Age = 40.528 ± 1.926 ka (±1 sigma, including ±J)
Isochron Age = 40.528 ± 0.976 ka (A Priori Errors, including ±J)
Isochron Age = 40.528 ± 4.552 ka (95% confidence, including ±J)
MSWD = 3.91 (Poor fit, MSWD > 3.12)
40Ar/36Ar intercept = 282.7 ± 22.3 (±1 sigma)
40Ar/36Ar intercept = 282.7 ± 11.3 (A Priori)
40Ar/36Ar intercept = 282.7 ± 52.8 (95% confidence)
Steps 5 of 10 (1125,1200,1250,1300,1400°C)

M-416 Sanidine Single Crystals

Temp(°C)	Age(ka)	%40*Ar	K/Ca	K/Cl	moles 40*Ar	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
Fuse	63.848±58.412	11.96	100.69	6583	7.69E-17	0	0.023422±0.000097	0.012958±0.000038	0.000187±0.000014	0.000068±0.000081	0.000070±0.000009
Fuse	68.859±71.281	111.03	150.34	-3236	5.91E-17	0	0.001937±0.000061	0.009226±0.000042	0.000105±0.000015	0.000032±0.000076	-0.000001±0.000008
Fuse	-33.936±83.355	-38.74	-116.43	2883	-2.91E-17	0	0.002738±0.000055	0.009233±0.000034	0.000134±0.000016	-0.000042±0.000104	0.000013±0.000009
Fuse	21.763±27.317	50.21	67.97	15584	5.57E-17	0	0.004040±0.000064	0.027537±0.000048	0.000361±0.000022	0.000213±0.000122	0.000007±0.000009
Fuse	-3.148±49.121	-5.22	40.98	2096	-4.63E-18	0	0.003229±0.000085	0.015816±0.000043	0.000237±0.000014	0.000202±0.000097	0.000012±0.000009
Fuse	19.848±22.418	30.74	73.77	32934	6.59E-17	0	0.007808±0.000063	0.035725±0.000066	0.000464±0.000017	0.000254±0.000117	0.000018±0.000009
Fuse	60.523±54.088	28.33	-81.05	39072	7.33E-17	0	0.009422±0.000064	0.013026±0.000045	0.000172±0.000016	-0.000084±0.000105	0.000023±0.000008
Fuse	122.259±64.627	172.29	59.79	-7952	1.18E-16	0	0.002506±0.000057	0.010433±0.000046	0.000126±0.000013	0.000092±0.000090	-0.000006±0.000008
Fuse	91.183±105.708	278.31	1.88	-827	5.99E-17	0	0.000784±0.000059	0.007068±0.000029	0.000053±0.000014	0.001975±0.000123	-0.000004±0.000009
Fuse	105.132±80.643	136.88	37.13	-4064	8.42E-17	0	0.002238±0.000062	0.008608±0.000031	0.000100±0.000014	0.000122±0.000085	-0.000003±0.000008
Fuse	70.826±69.080	18.95	-671.2	-1906	6.88E-17	0	0.013209±0.000057	0.010440±0.000036	0.000117±0.000014	-0.000008±0.000078	0.000036±0.000008

Packet IRR286-WA, Experiment #10Z0323, g Sanidine, all errors ±1 sigma
J = 0.0001637±3.28E-07

40*Ar is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay

Weighted Mean 34.0 ± 13.6 ka

M-416 Sanidine

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
650	456.1±141.3	13.4	2.14	480	3.48E-16	0	0.053336±0.000093	0.005738±0.000031	0.000156±0.000010	0.001405±0.000045	0.000157±0.000007
750	93.9±58.4	7.06	8.46	2207	1.78E-16	0.01	0.051626±0.000101	0.014221±0.000047	0.000245±0.000026	0.000882±0.000087	0.000163±0.000008
850	45.8±22.6	8.73	3.86	4030	2.18E-16	0.03	0.051298±0.000098	0.035814±0.000077	0.000538±0.000018	0.004868±0.000162	0.000160±0.000007
950	32.5±10.0	12.46	9.07	-18060	3.32E-16	0.07	0.054768±0.000098	0.076932±0.000085	0.001023±0.000024	0.004450±0.000063	0.000163±0.000007
1050	26.9±5.9	14.33	4.46	-5505	5.12E-16	0.14	0.073285±0.000121	0.143170±0.000126	0.001810±0.000037	0.016855±0.000089	0.000217±0.000008
1150	30.9±3.6	26.21	8.76	-16044	9.08E-16	0.26	0.071137±0.000107	0.220646±0.000190	0.002874±0.000061	0.013210±0.000091	0.000181±0.000007
1250	34.8±2.4	32.54	9.72	-11390	1.59E-15	0.43	0.100544±0.000135	0.343838±0.000205	0.004432±0.000057	0.018566±0.000194	0.000234±0.000008
1350	41.0±2.6	31.58	7.19	13204	1.80E-15	0.6	0.116766±0.000137	0.328957±0.000199	0.004480±0.000068	0.023994±0.000127	0.000276±0.000008
1450	43.7±1.5	52.6	9.64	107159	3.23E-15	0.89	0.126131±0.000177	0.555445±0.000317	0.007359±0.000066	0.030225±0.000086	0.000209±0.000008
1500	32.0±3.5	43.69	17.77	-26461	9.37E-16	1	0.044037±0.000191	0.220463±0.000174	0.002877±0.000070	0.006511±0.000084	0.000085±0.000007

Packet IRR317-RI, Experiment #13Z0179, 0.026 g Sanidine, all errors ±1 sigma
J = 0.000202940747209±2.76E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 8.437 ± 13.649, Calculated K2O = 6.91%wt., Calculated CaO = 1.00%wt., Calculated Cl = -0.1ppm

Total Gas Age = 38.9 ± 1.3 ka

Weighted Mean Plateau Age = 39.0 ± 2.0 ka (±1 sigma, including ±J), 99.0% 39Ar released
Weighted Mean Plateau Age = 39.0 ± 1.0 ka (A priori, including ±J), 99.0% 39Ar released
Weighted Mean Plateau Age = 39.0 ± 1.0 ka (A priori, without ±J)
MSWD = 3.88 (Poor fit, MSWD > 2.29)
Steps 8 of 10 (850,950,1050,1150,1250,1350,1450,1500°C)

Isochron Age = 39.9 ± 4.2 ka (±1 sigma, including ±J)
Isochron Age = 39.9 ± 2.0 ka (A Priori Errors, including ±J)
Isochron Age = 39.9 ± 9.9 ka (95% confidence, including ±J)
MSWD = 4.19 (Poor fit, MSWD > 2.40)
40Ar/36Ar intercept = 284.5 ± 16.4 (±1 sigma)
40Ar/36Ar intercept = 284.5 ± 8.0 (A Priori)
40Ar/36Ar intercept = 284.5 ± 38.7 (95% confidence)
Steps 8 of 10 (850,950,1050,1150,1250,1350,1450,1500°C)

M-434 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
650	33.9±46.3	0.75	0.14	2043	8.96E-17	0.05	0.432986±0.000221	0.040717±0.000089	0.000896±0.000023	0.154692±0.000740	0.001498±0.000015
750	2.0±26.3	0.13	0.14	7173	1.06E-17	0.15	0.303977±0.000252	0.079818±0.000091	0.001296±0.000030	0.308437±0.001169	0.001114±0.000017
850	43.6±14.1	3.95	0.13	326646	3.54E-16	0.3	0.325952±0.000304	0.124937±0.000146	0.001853±0.000056	0.503346±0.001007	0.001200±0.000014
950	76.7±14.4	8.64	0.12	6624	6.94E-16	0.47	0.292263±0.000300	0.139393±0.000141	0.002105±0.000064	0.613302±0.001776	0.001075±0.000016
1025	59.8±21.5	5.2	0.11	928	3.79E-16	0.59	0.264971±0.000277	0.097674±0.000120	0.001903±0.000059	0.449857±0.001106	0.000976±0.000017
1125	123.1±21.8	5.91	0.12	1802	6.96E-16	0.69	0.428278±0.000282	0.087063±0.000104	0.001615±0.000035	0.387750±0.000793	0.001472±0.000015
1225	156.6±40.2	4.73	0.1	7394	5.25E-16	0.76	0.403964±0.000411	0.051680±0.000083	0.000959±0.000036	0.268416±0.000388	0.001378±0.000016
1350	323.4±21.0	8.92	0.09	5948	3.24E-15	0.94	1.320471±0.000392	0.154220±0.000188	0.002918±0.000040	0.851373±0.001361	0.004309±0.000025
1450	122.5±47.3	5	0.09	-6951	3.73E-16	1	0.271404±0.001574	0.046923±0.000117	0.000757±0.000041	0.282747±0.000945	0.000952±0.000017

Packet IRR290-YA, Experiment #11z0124, 0.0506 g Feldspar, all errors ±1 sigma
J = 0.000233872438±1.345E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 0.73%wt., Calculated CaO = 7.97%wt., Calculated Cl = 0.2ppm

Total Gas Age = 119.1 ± 7.6 ka

Weighted Mean Plateau Age = 52.9 ± 11.4 ka (±1 sigma, including ±J), 58.7% 39Ar released
Weighted Mean Plateau Age = 52.9 ± 8.5 ka (A priori, without ±J)
MSWD = 1.79 (Good fit, MSWD < 2.77)
Steps 5 of 9 (650,750,850,950,1025°C)

Isochron Age = 69.9 ± 23.6 ka (±1 sigma, including ±J)
Isochron Age = 69.9 ± 17.0 ka (A Priori Errors, including ±J)
Isochron Age = 69.9 ± 57.8 ka (95% confidence, including ±J)
MSWD = 1.94 (Good fit, MSWD < 3.12)
40Ar/36Ar intercept = 290.9 ± 5.2 (±1 sigma)
40Ar/36Ar intercept = 290.9 ± 3.8 (A Priori)
40Ar/36Ar intercept = 290.9 ± 12.8 (95% confidence)
Steps 5 of 9 (650,750,850,950,1025°C)

M-447 Basalt

Temp(°C)	Age(Ma)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	3.246±0.007	79.42	0.51	23882	7.75E-14	0.04	3.553819±0.001298	0.347455±0.000222	0.005099±0.000053	0.355591±0.001107	0.002574±0.000020
600	3.240±0.004	83.56	0.59	-22516	1.45E-13	0.11	6.326517±0.001899	0.652009±0.000341	0.009114±0.000078	0.578813±0.001071	0.003679±0.000022
650	3.204±0.003	86.96	0.73	-15026	2.79E-13	0.25	11.689234±0.004872	1.267406±0.000553	0.017277±0.000108	0.916719±0.002472	0.005412±0.000026
675	3.166±0.003	88.96	0.93	-28839	2.42E-13	0.38	9.883770±0.003477	1.109471±0.000530	0.015118±0.000073	0.623121±0.000683	0.003864±0.000020
700	3.142±0.003	89.51	1.09	-22311	2.36E-13	0.5	9.592910±0.004474	1.091759±0.000449	0.014784±0.000073	0.526123±0.002067	0.003549±0.000022
725	3.125±0.003	89.37	1.08	-168444	2.25E-13	0.62	9.177034±0.002584	1.048240±0.000398	0.014376±0.000074	0.510686±0.000379	0.003441±0.000021
750	3.125±0.003	88.9	0.96	-63845	1.94E-13	0.72	7.995986±0.002951	0.908778±0.000353	0.012453±0.000085	0.494372±0.000808	0.003140±0.000022
780	3.126±0.004	87.1	0.82	37223	1.62E-13	0.8	6.833445±0.003420	0.760760±0.000455	0.010653±0.000074	0.485823±0.000789	0.003116±0.000020
820	3.126±0.005	83.1	0.68	16465	1.24E-13	0.87	5.463153±0.001964	0.580174±0.000326	0.008369±0.000047	0.447293±0.001116	0.003248±0.000021
870	3.096±0.007	76.01	0.61	6344	8.00E-14	0.91	3.829094±0.001131	0.375554±0.000240	0.005777±0.000060	0.322839±0.001132	0.003199±0.000022
945	3.035±0.007	71.25	0.56	2417	7.90E-14	0.95	4.034225±0.001570	0.378531±0.000231	0.006387±0.000041	0.354128±0.001078	0.004023±0.000021
1020	2.909±0.011	61.97	0.33	1438	5.06E-14	0.98	2.973384±0.000791	0.253258±0.000206	0.004807±0.000039	0.399218±0.000595	0.003938±0.000022
1075	2.664±0.018	48.29	0.08	598	3.09E-14	1	2.328095±0.001082	0.169355±0.000188	0.004225±0.000034	1.162164±0.002881	0.004400±0.000024
1150	4.187±0.087	35.23	0.02	1064	8.02E-15	1	0.828692±0.000425	0.028324±0.000063	0.000840±0.000018	0.692119±0.003111	0.002011±0.000020

Packet IRR290-XT, Experiment #11z0119, 0.1521 g Basalt, all errors ±1 sigma
J = 0.000221536333±1.345E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 2.81%wt., Calculated CaO = 5.75%wt., Calculated Cl = 0.2ppm

Total Gas Age = 3.140 ± 0.002 Ma

Recoil Age = 3.153 ± 0.026 Ma (±1 sigma, fractional 39Ar and inverse errors * MSWD), 100.000% 39Ar released
MSWD = 216.03 (Poor fit, MSWD > 1.90)
Steps 14 of 14 (550,600,650,675,700,725,750,780,820,870,945,1020,1075,1150°C)

Weighted Mean Plateau Age = 3.125 ± 0.003 Ma (±1 sigma, including ±J), 36.637% 39Ar released
Weighted Mean Plateau Age = 3.125 ± 1.778e-3 Ma (A priori, without ±J)
MSWD = 3.65e-2 (Good fit, MSWD < 3.12)
Steps 4 of 14 (725,750,780,820°C)

Isochron Age = 3.123 ± 0.009 Ma (±1 sigma, including ±J)
Isochron Age = 3.1 ± 0.0 Ma (A Priori Errors, including ±J)
Isochron Age = 3.1 ± 0.0 Ma (95% confidence, including ±J)
MSWD = 0.02 (Good fit, MSWD < 3.69)

40Ar/36Ar intercept = 297.0 ± 6.0 (±1 sigma)
40Ar/36Ar intercept = 297.0 ± 6.0 (A Priori)
40Ar/36Ar intercept = 297.0 ± 13.2 (95% confidence)
Steps 4 of 14 (725,750,780,820°C)

M-454 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	289.24±39.32	17.22	0.61	-934	6.21E-16	0.01	0.131279±0.000495	0.026414±0.000069	0.000285±0.000024	0.022758±0.000810	0.000374±0.000010
700	45.74±11.61	7.81	0.63	6270	4.26E-16	0.03	0.198682±0.000687	0.114676±0.000230	0.001661±0.000037	0.096183±0.000744	0.000647±0.000013
800	58.18±4.76	17.5	0.67	4814	1.30E-15	0.1	0.269660±0.000827	0.274074±0.000550	0.003890±0.000036	0.214039±0.001501	0.000813±0.000013
900	61.12±2.80	29.88	0.72	5804	2.57E-15	0.23	0.312493±0.000911	0.516172±0.001035	0.007121±0.000058	0.376466±0.002247	0.000847±0.000014
975	57.14±2.12	45.08	0.78	5980	2.75E-15	0.37	0.221863±0.000733	0.591454±0.001186	0.008064±0.000036	0.397318±0.001717	0.000524±0.000012
1050	64.24±2.24	45.08	0.88	3380	3.12E-15	0.51	0.252223±0.000792	0.598022±0.001199	0.008492±0.000053	0.355749±0.002117	0.000569±0.000013
1125	63.76±1.82	44.75	1.09	6047	2.95E-15	0.65	0.242028±0.000577	0.573884±0.001152	0.007827±0.000092	0.275012±0.002156	0.000530±0.000010
1200	75.86±1.85	47.38	2.07	6393	3.12E-15	0.77	0.239817±0.000572	0.506006±0.001016	0.006884±0.000067	0.128166±0.000934	0.000463±0.000009
1275	79.50±2.89	51.12	2.21	7060	1.90E-15	0.84	0.136384±0.000368	0.296229±0.000596	0.004007±0.000034	0.070452±0.000735	0.000245±0.000008
1350	106.13±2.66	52.96	1.74	11202	3.10E-15	0.93	0.215203±0.000523	0.362731±0.000729	0.004838±0.000061	0.109398±0.000639	0.000373±0.000009
1450	98.45±3.89	31.23	1.7	7175	2.25E-15	1	0.262039±0.000616	0.280833±0.000565	0.003870±0.000029	0.086771±0.000759	0.000634±0.000011

Packet IRR281-SM, Experiment #10Z0201, 0.0806 g Fldspr, all errors ±1 sigma
J = 0.000187214±3.74E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 2.89%wt., Calculated CaO = 3.48%wt., Calculated Cl = 0.5ppm

Total Gas Age = 71.8 ± 0.9 ka

M-463 Dacite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	80.67±5.85	15.61	5.58	24527	1.61E-15	0.03	0.378268±0.000815	0.218459±0.000438	0.003030±0.000045	0.020545±0.000530	0.001086±0.000014
600	72.37±3.15	43.32	5.88	22739	3.32E-15	0.11	0.278732±0.001179	0.498135±0.000999	0.006556±0.000081	0.044466±0.000434	0.000547±0.000017
650	77.01±1.69	45.91	5.96	18448	6.32E-15	0.25	0.500748±0.001619	0.891199±0.001788	0.011761±0.000148	0.078409±0.000764	0.000939±0.000016
700	76.33±1.41	48.2	5.38	9502	9.13E-15	0.46	0.689377±0.001994	1.299514±0.002606	0.017411±0.000096	0.126839±0.001260	0.001244±0.000019
750	74.06±1.16	54.58	5.33	13871	9.52E-15	0.67	0.634956±0.001886	1.397000±0.002802	0.018458±0.000124	0.137493±0.001175	0.001015±0.000017
800	77.20±1.32	66.16	4.3	6523	7.53E-15	0.84	0.414515±0.001448	1.060422±0.002127	0.014331±0.000057	0.129497±0.000995	0.000511±0.000015
850	77.21±2.47	37.16	2.58	6384	3.39E-15	0.92	0.332275±0.000838	0.477394±0.000958	0.006552±0.000063	0.097037±0.001189	0.000734±0.000013
925	77.49±5.60	21.52	1.16	3458	1.50E-15	0.95	0.254207±0.000683	0.210849±0.000423	0.003083±0.000046	0.095347±0.000985	0.000702±0.000013
1000	75.56±8.81	13.93	0.91	1595	9.78E-16	0.97	0.255531±0.000686	0.140670±0.000283	0.002316±0.000024	0.080892±0.001061	0.000767±0.000014
1075	93.98±12.52	7.55	0.59	607	1.00E-15	0.99	0.483297±0.001139	0.115968±0.000233	0.002586±0.000050	0.103633±0.001045	0.001541±0.000015
1150	137.87±17.70	10.15	0.24	925	9.20E-16	1	0.329805±0.000833	0.072599±0.000147	0.001455±0.000041	0.158244±0.001582	0.001047±0.000014

Packet IRR281-SY, Experiment #10Z0211, 0.0915 g Dacite, all errors ±1 sigma
J = 0.00016546±3.31E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 4.46%wt., Calculated CaO = 1.75%wt., Calculated Cl = 0.8ppm

Total Gas Age = 77.0 ± 0.7 ka

Weighted Mean Plateau Age = 75.9 ± 0.6 ka (±1 sigma, including ±J), 97.0% 39Ar released
Weighted Mean Plateau Age = 75.9 ± 0.6 ka (A priori, without ±J)
MSWD = 0.79 (Good fit, MSWD < 2.19)
Steps 9 of 11 (550,600,650,700,750,800,850,925,1000°C)

Isochron Age = 75.116 ± 1.075 ka (±1 sigma, including ±J)
Isochron Age = 75.116 ± 1.075 ka (A Priori Errors, including ±J)
Isochron Age = 75.116 ± 2.460 ka (95% confidence, including ±J)
MSWD = 0.86 (Good fit, MSWD < 2.29)
40Ar/36Ar intercept = 298.1 ± 3.2 (±1 sigma)
40Ar/36Ar intercept = 298.1 ± 3.2 (A Priori)
40Ar/36Ar intercept = 298.1 ± 7.3 (95% confidence)
Steps 9 of 11 (550,600,650,700,750,800,850,925,1000°C)

M-483 Andesite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	139.77±5.58	16.74	0.65	5341	4.32E-15	0.05	0.940156±0.001970	0.348642±0.000701	0.005234±0.000075	0.283083±0.002205	0.002728±0.000018
600	144.48±3.54	36.92	0.74	11248	8.49E-15	0.13	0.836802±0.002761	0.661838±0.001328	0.009049±0.000098	0.470486±0.002499	0.001919±0.000023
650	136.54±2.71	41.8	0.85	9371	1.05E-14	0.25	0.914805±0.002916	0.866847±0.001739	0.011816±0.000069	0.534350±0.001759	0.001952±0.000023
700	138.56±2.15	30.55	0.98	10591	1.38E-14	0.4	1.649298±0.003407	1.125257±0.002257	0.015564±0.000078	0.604845±0.001884	0.004046±0.000019
750	131.88±2.06	29.37	1.02	6938	1.61E-14	0.58	2.015609±0.004139	1.389264±0.002787	0.019518±0.000079	0.713011±0.002910	0.005018±0.000022
800	129.87±2.32	27.48	0.93	6753	1.33E-14	0.74	1.759881±0.003628	1.152712±0.002312	0.016275±0.000094	0.649406±0.002797	0.004501±0.000022
850	131.67±3.16	22.4	0.8	4245	8.73E-15	0.83	1.431319±0.002971	0.753773±0.001512	0.011102±0.000043	0.497134±0.002047	0.003898±0.000021
950	127.49±4.70	14.5	0.77	2886	7.23E-15	0.92	1.815155±0.003739	0.638844±0.001282	0.010100±0.000067	0.436734±0.001978	0.005375±0.000025
1025	120.71±6.19	9.94	0.53	1623	4.40E-15	0.97	1.610248±0.003329	0.410501±0.000824	0.007254±0.000050	0.405441±0.002377	0.005022±0.000021
1100	96.66±16.96	3.3	0.1	649	1.36E-15	1	1.498157±0.003105	0.158624±0.000319	0.004007±0.000057	0.845772±0.002606	0.005140±0.000023
1200	74.50±35.87	1.81	0.09	1006	2.39E-16	1	0.481733±0.001074	0.036335±0.000074	0.000923±0.000032	0.210996±0.001773	0.001660±0.000013

Packet IRR281-SX, Experiment #10Z0202, 0.1786 g Andesite, all errors ±1 sigma
J = 0.000171493±3.43E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 2.60%wt., Calculated CaO = 4.54%wt., Calculated Cl = 0.6ppm

Total Gas Age = 132.6 ± 1.0 ka

Weighted Mean Plateau Age = 130.8 ± 1.4 ka (±1 sigma, including ±J), 52.1% 39Ar released
Weighted Mean Plateau Age = 130.8 ± 1.3 ka (A priori, without ±J)

MSWD = 0.34 (Good fit, MSWD < 3.12)
Steps 4 of 11 (750,800,850,950°C)

Isochron Age = 133.655 ± 3.901 ka (±1 sigma, including ±J)
Isochron Age = 133.655 ± 3.901 ka (A Priori Errors, including ±J)
Isochron Age = 133.655 ± 8.978 ka (95% confidence, including ±J)
MSWD = 0.38 (Good fit, MSWD < 3.69)
40Ar/36Ar intercept = 293.3 ± 2.9 (±1 sigma)
40Ar/36Ar intercept = 293.3 ± 2.9 (A Priori)
40Ar/36Ar intercept = 293.3 ± 6.6 (95% confidence)
Steps 4 of 11 (750,800,850,950°C)

Weighted Mean Plateau Age = 134.2 ± 1.8 ka (±1 sigma, including ±J), 97.4% 39Ar released
Weighted Mean Plateau Age = 134.2 ± 1.0 ka (A priori, without ±J)
MSWD = 3.31 (Poor fit, MSWD > 2.19)
Steps 9 of 11 (550,600,650,700,750,800,850,950,1025°C)

Isochron Age = 139.379 ± 3.615 ka (±1 sigma, including ±J)
Isochron Age = 139.379 ± 2.026 ka (A Priori Errors, including ±J)
Isochron Age = 139.379 ± 8.317 ka (95% confidence, including ±J)
MSWD = 3.23 (Poor fit, MSWD > 2.29)
40Ar/36Ar intercept = 291.0 ± 2.6 (±1 sigma)
40Ar/36Ar intercept = 291.0 ± 1.5 (A Priori)
40Ar/36Ar intercept = 291.0 ± 6.0 (95% confidence)
Steps 9 of 11 (550,600,650,700,750,800,850,950,1025°C)

39Ar Weighted Age = 133.9 ± 1.0 ka, 100.0% 39Ar released; weighted by fractional 39Ar and inverse errors; errors gas totals
39Ar Weighted Age = 133.9 ± 1.0 ka, 100.0% 39Ar released; weighted by fractional 39Ar and inverse errors; errors frac39 and inverse errors
Recoil Age = 133.9 ± 7.0 ka (± standard error of the mean, no analytical errors included), 100.0% 39Ar released
Recoil Age = 133.9 ± 1.9 ka (±1 sigma, fractional 39Ar TGA error * MSWD), 100.0% 39Ar released
Recoil Age = 133.9 ± 1.8 ka (±1 sigma, fractional 39Ar and inverse errors * MSWD), 100.0% 39Ar released
MSWD = 3.42 (Poor fit, MSWD > 2.05)
Steps 11 of 11 (550,600,650,700,750,800,850,950,1025,1100,1200°C)

M-487 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	191.3±14.1	11.65	0.32	-3942	1.32E-15	0.03	0.490166±0.000601	0.116946±0.000123	0.001688±0.000029	0.191236±0.000624	0.001519±0.000014
600	169.1±7.4	14.91	0.34	-25191	2.63E-15	0.1	0.764975±0.000326	0.264203±0.000234	0.003848±0.000054	0.409145±0.001010	0.002317±0.000017
650	163.7±4.4	19.53	0.36	-20063	4.18E-15	0.21	0.929275±0.000328	0.434323±0.000322	0.006102±0.000057	0.628333±0.000503	0.002706±0.000016
700	156.2±4.1	22.39	0.43	-21552	4.69E-15	0.35	0.909511±0.000346	0.510536±0.000309	0.007068±0.000074	0.615691±0.001010	0.002560±0.000018
750	150.3±3.9	22.92	0.58	-42802	4.86E-15	0.49	0.920824±0.000351	0.549808±0.000358	0.007630±0.000098	0.499697±0.001380	0.002540±0.000018
800	158.9±3.6	23.75	0.7	-94580	5.08E-15	0.63	0.928188±0.000398	0.543358±0.000323	0.007572±0.000043	0.406788±0.000850	0.002507±0.000016
850	151.1±4.1	20.16	0.69	-38603	4.14E-15	0.76	0.892260±0.000399	0.465980±0.000333	0.006530±0.000057	0.352931±0.001137	0.002508±0.000016
900	148.8±6.2	15.37	0.56	-19318	2.54E-15	0.83	0.724376±0.000331	0.293015±0.000231	0.004179±0.000067	0.274597±0.001074	0.002151±0.000015
975	148.7±8.0	9.97	0.39	5479	1.98E-15	0.89	0.863424±0.000426	0.226611±0.000226	0.003654±0.000063	0.302927±0.000988	0.002715±0.000015
1050	146.1±12.3	6.95	0.3	2745	1.32E-15	0.93	0.826666±0.000377	0.154190±0.000190	0.002760±0.000049	0.270119±0.000774	0.002678±0.000016
1150	142.6±12.8	5.9	0.22	1763	1.59E-15	0.98	1.167952±0.000517	0.189438±0.000241	0.003655±0.000083	0.448665±0.001253	0.003845±0.000021
1250	207.5±44.0	2.52	0.02	423	8.93E-16	1	1.540711±0.000483	0.074314±0.000180	0.002707±0.000086	1.606830±0.002844	0.005534±0.000026

Packet IRR310-LB, Experiment #12Z0299, 0.1284 g Basalt, all errors ±1 sigma
J = 0.000216896±2.56E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.334 ± 9.540e-2, Calculated K2O = 1.21%wt., Calculated CaO = 4.46%wt., Calculated Cl = 8.8e-2ppm

Total Gas Age = 156.8 ± 1.9 ka

Weighted Mean Plateau Age = 155.3 ± 2.0 ka (±1 sigma, including ±J), 95.0% 39Ar released
Weighted Mean Plateau Age = 155.3 ± 1.6 ka (A priori, including ±J), 95.0% 39Ar released
Weighted Mean Plateau Age = 155.3 ± 1.6 ka (A priori, without ±J)
MSWD = 1.57 (Good fit, MSWD < 2.11)
Steps 10 of 12 (600,650,700,750,800,850,900,975,1050,1150°C)

Isochron Age = 158.3 ± 4.7 ka (±1 sigma, including ±J)
Isochron Age = 158.3 ± 3.7 ka (A Priori Errors, including ±J)
Isochron Age = 158.3 ± 10.6 ka (95% confidence, including ±J)
MSWD = 1.64 (Good fit, MSWD < 2.19)
40Ar/36Ar intercept = 294.1 ± 1.9 (±1 sigma)
40Ar/36Ar intercept = 294.1 ± 1.4 (A Priori)
40Ar/36Ar intercept = 294.1 ± 4.2 (95% confidence)
Steps 10 of 12 (600,650,700,750,800,850,900,975,1050,1150°C)

M-494 Andesite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	3222.3±2.6	97.5	4.42	-12701	1.57E-13	0.1	7.026363±0.002600	0.709661±0.000390	0.009198±0.000051	0.084261±0.000924	0.000619±0.000011
600	3265.9±2.6	97.99	5.09	-6545	1.87E-13	0.22	8.266007±0.003280	0.827847±0.000402	0.010442±0.000057	0.085312±0.001212	0.000587±0.000013
640	3337.7±3.6	98.61	8.36	-6483	1.33E-13	0.31	5.870506±0.003925	0.578950±0.000398	0.007276±0.000068	0.036323±0.001041	0.000285±0.000010
670	3361.1±2.7	98.3	6.55	-7950	1.99E-13	0.44	3.953177±0.001482	0.385902±0.000220	0.004906±0.000037	0.030927±0.000154	0.000237±0.000005
710	3376.5±3.1	98.01	6.19	-11251	1.74E-13	0.54	3.462435±0.001181	0.335490±0.000224	0.004325±0.000035	0.028458±0.000354	0.000241±0.000006
760	3383.1±2.8	97.35	5.11	-21328	1.54E-13	0.64	3.099573±0.001080	0.297713±0.000139	0.003905±0.000038	0.030596±0.000882	0.000287±0.000006
810	3389.4±3.3	96.81	4.03	-15672	1.41E-13	0.73	2.849771±0.000946	0.271704±0.000171	0.003554±0.000025	0.035407±0.000365	0.000317±0.000006
875	3383.7±3.0	96.72	3.22	-10384	1.43E-13	0.82	2.900104±0.000961	0.276708±0.000140	0.003583±0.000020	0.045102±0.000330	0.000335±0.000006
950	3373.5±3.1	96.6	2.7	-9748	1.36E-13	0.91	2.750045±0.000836	0.262856±0.000168	0.003399±0.000035	0.051163±0.000193	0.000331±0.000005

1025	3299.9±4.8	94.26	1.5	7676	6.32E-14	0.95	1.310017±0.000381	0.124930±0.000082	0.001760±0.000022	0.043748±0.000546	0.000267±0.000005
1100	3167.7±8.9	89.01	0.79	4382	3.47E-14	0.97	0.762250±0.000285	0.071526±0.000086	0.001064±0.000021	0.047254±0.000571	0.000297±0.000006
1200	3093.1±7.5	81.3	0.52	3339	4.40E-14	1	1.057985±0.000271	0.092887±0.000097	0.001467±0.000030	0.093182±0.000449	0.000696±0.000006

Packet IRR307-KG, Experiment #12Z0244_288.34, 0.0855 g Andesite, all errors ±1 sigma
J = 0.0001851819631±1.21E-07

40Ar* is radiogenic argon, isotopes in volts (5.11e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 3.633 ± 2.714, Calculated K2O = 3.82%wt., Calculated CaO = 1.29%wt., Calculated Cl = -0.4ppm

Total Gas Age = 3311.9 ± 2.4 ka

Weighted Mean Plateau Age = 3377.1 ± 8.8 ka (±1 sigma, including ±J), 59.6% 39Ar released
Weighted Mean Plateau Age = 3377.1 ± 2.5 ka (A priori, including ±J), 59.6% 39Ar released
Weighted Mean Plateau Age = 3377.1 ± 1.2 ka (A priori, without ±J)
MSWD = 12.28 (Poor fit, MSWD > 2.56)
Steps 6 of 12 (670,710,760,810,875,950°C)

Isochron Age = 3362.6 ± 14.7 ka (±1 sigma, including ±J)
Isochron Age = 3362.6 ± 5.4 ka (A Priori Errors, including ±J)
Isochron Age = 3362.6 ± 32.9 ka (95% confidence, including ±J)
MSWD = 8.55 (Poor fit, MSWD > 2.77)
40Ar/36Ar intercept = 342.7 ± 45.7 (±1 sigma)
40Ar/36Ar intercept = 342.7 ± 15.6 (A Priori)
40Ar/36Ar intercept = 342.7 ± 103.3 (95% confidence)
Steps 6 of 12 (670,710,760,810,875,950°C)

M-523 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	297.87±88.94	-4.6	0.12	2627	5.62E-16	0.01	-0.448494±0.000670	0.020691±0.000065	0.000003±0.000029	0.087411±0.001029	-0.001563±0.000020
700	67.12±19.63	21.86	0.13	7039	4.20E-16	0.04	0.069878±0.000597	0.068002±0.000137	0.000951±0.000023	0.273924±0.001481	0.000262±0.000015
800	75.86±7.23	32.69	0.13	5323	1.18E-15	0.13	0.132733±0.000717	0.170913±0.000343	0.002393±0.000042	0.676484±0.002385	0.000492±0.000014
900	71.89±4.43	38.75	0.13	6244	2.23E-15	0.29	0.209245±0.000866	0.337013±0.000676	0.004648±0.000030	1.337130±0.003081	0.000809±0.000017
1000	69.62±2.52	37.34	0.13	8643	3.08E-15	0.53	0.299964±0.000712	0.480751±0.000964	0.006541±0.000058	1.898097±0.006803	0.001169±0.000013
1075	71.74±3.31	23.85	0.13	2104	2.58E-15	0.72	0.397164±0.000906	0.394590±0.000792	0.006070±0.000039	1.571216±0.003231	0.001465±0.000014
1150	71.33±3.04	46.7	0.13	6186	2.07E-15	0.87	0.161641±0.000438	0.316268±0.000635	0.004342±0.000056	1.276920±0.003967	0.000650±0.000011
1225	74.82±6.52	27.48	0.13	5320	1.17E-15	0.96	0.155465±0.000426	0.170666±0.000343	0.002405±0.000056	0.709452±0.003772	0.000581±0.000012
1300	235.91±18.86	38.07	0.13	18765	9.35E-16	0.98	0.089389±0.000243	0.043100±0.000087	0.000599±0.000023	0.170294±0.001003	0.000235±0.000009
1400	167.54±16.88	27.48	0.12	5397	7.43E-16	1	0.098451±0.000261	0.048265±0.000098	0.000705±0.000026	0.209620±0.001743	0.000301±0.000009

Packet IRR281-SQ, Experiment #10Z0207, 0.189 g Fldspr, all errors ±1 sigma
J = 0.000165178±3.30E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 0.69%wt., Calculated CaO = 6.47%wt., Calculated Cl = 0.2ppm

Total Gas Age = 79.6 ± 1.9 ka

Weighted Mean Plateau Age = 71.2 ± 1.5 ka (±1 sigma, including ±J), 94.5% 39Ar released
Weighted Mean Plateau Age = 71.2 ± 1.5 ka (A priori, without ±J)
MSWD = 0.20 (Good fit, MSWD < 2.40)
Steps 7 of 10 (700,800,900,1000,1075,1150,1225°C)

Isochron Age = 69.815 ± 4.953 ka (±1 sigma, including ±J)
Isochron Age = 69.815 ± 4.953 ka (A Priori Errors, including ±J)
Isochron Age = 69.815 ± 11.711 ka (95% confidence, including ±J)
MSWD = 0.16 (Good fit, MSWD < 2.56)
40Ar/36Ar intercept = 298.8 ± 9.7 (±1 sigma)
40Ar/36Ar intercept = 298.8 ± 9.7 (A Priori)
40Ar/36Ar intercept = 298.8 ± 22.9 (95% confidence)
Steps 7 of 10 (700,800,900,1000,1075,1150,1225°C)

M-550 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	88.07±5.09	13.15	0.34	30411	2.40E-15	0.15	0.664126±0.001368	0.327906±0.000658	0.004611±0.000031	0.508937±0.001407	0.002095±0.000015
600	88.04±6.06	14.26	0.36	78734	1.82E-15	0.27	0.463984±0.002002	0.248478±0.000499	0.003447±0.000049	0.360233±0.001088	0.001448±0.000013
650	95.49±4.02	14.52	0.38	10459	5.18E-15	0.57	1.297865±0.002641	0.652438±0.001309	0.009322±0.000071	0.898939±0.002665	0.004007±0.000022
700	91.09±6.60	9.53	0.35	6720	2.39E-15	0.71	0.913468±0.001872	0.316025±0.000634	0.004771±0.000041	0.469198±0.001268	0.002929±0.000019
750	105.37±10.05	8.22	0.27	11558	1.36E-15	0.78	0.602759±0.001251	0.155576±0.000313	0.002402±0.000041	0.304151±0.001338	0.001958±0.000014
800	106.87±12.31	6.62	0.2	17340	1.23E-15	0.85	0.682860±0.001411	0.140058±0.000282	0.002235±0.000041	0.370342±0.001336	0.002262±0.000016
850	100.28±15.63	4.79	0.15	4364	8.51E-16	0.89	0.646285±0.001338	0.102273±0.000206	0.001804±0.000029	0.369132±0.001372	0.002186±0.000014
925	77.82±21.30	2.62	0.12	2444	5.86E-16	0.94	0.813313±0.001700	0.090860±0.000184	0.001830±0.000033	0.406612±0.001704	0.002794±0.000017
1000	69.28±24.24	2.37	0.1	1321	3.38E-16	0.96	0.519838±0.001114	0.058885±0.000120	0.001271±0.000034	0.308031±0.001245	0.001804±0.000013
1100	30.61±30.03	0.65	0.07	414	2.09E-16	1	1.176304±0.002389	0.082475±0.000166	0.002656±0.000032	0.574257±0.002992	0.004116±0.000021

Packet IRR281-SV, Experiment #10z0173, 0.1628 g Basalt, all errors ±1 sigma
J = 0.0001831057±3.66211E-07

40Ar* is radiogenic argon, isotopes in volts (2.75e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 0.77%wt., Calculated CaO = 3.78%wt., Calculated Cl = 0.2ppm

Total Gas Age = 90.6 ± 2.5 ka

Weighted Mean Plateau Age = 92.7 ± 2.4 ka (±1 sigma, including ±J), 96.2% 39Ar released
Weighted Mean Plateau Age = 92.7 ± 2.4 ka (A priori, without ±J)
MSWD = 0.82 (Good fit, MSWD < 2.19)
Steps 9 of 10 (550,600,650,700,750,800,850,925,1000°C)

Isochron Age = 92.182 ± 4.528 ka (±1 sigma, including ±J)
Isochron Age = 92.182 ± 4.441 ka (A Priori Errors, including ±J)
Isochron Age = 92.182 ± 10.701 ka (95% confidence, including ±J)
MSWD = 1.04 (Good fit, MSWD < 2.29)
40Ar/36Ar intercept = 295.7 ± 1.5 (±1 sigma)
40Ar/36Ar intercept = 295.7 ± 1.5 (A Priori)
40Ar/36Ar intercept = 295.7 ± 3.6 (95% confidence)
Steps 9 of 10 (550,600,650,700,750,800,850,925,1000°C)

M-613 Dacite

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	109.9±6.4	15.99	2.36	-275666	1.87E-15	0.02	0.508651±0.000250	0.225610±0.000160	0.003201±0.000072	0.050202±0.000614	0.001459±0.000016
600	101.9±3.2	19.7	2.66	-66487	3.79E-15	0.08	0.836623±0.000421	0.492958±0.000358	0.006804±0.000074	0.097233±0.000664	0.002299±0.000017
650	101.6±1.5	26.27	2.91	-11583	8.69E-15	0.2	1.447999±0.000513	1.140132±0.000642	0.015079±0.000072	0.205391±0.000385	0.003667±0.000019
700	98.4±1.2	31.68	3.1	-28253	1.18E-14	0.37	1.622978±0.000506	1.592996±0.000610	0.021174±0.000291	0.269717±0.001698	0.003823±0.000021
750	97.8±1.0	36.51	2.97	-193707	1.51E-14	0.58	1.794000±0.000734	2.040021±0.000789	0.027203±0.000307	0.360054±0.001257	0.003949±0.000022
800	99.2±1.0	39.93	2.71	20996	1.22E-14	0.75	1.325114±0.000661	1.624726±0.000715	0.021964±0.000141	0.314130±0.001965	0.002777±0.000018
850	98.6±1.4	37.52	2.34	8729	8.65E-15	0.88	1.001404±0.000391	1.161434±0.000609	0.016071±0.000049	0.260596±0.002612	0.002187±0.000018
900	94.8±2.5	28.51	1.72	7531	3.43E-15	0.93	0.522061±0.000308	0.478258±0.000294	0.006729±0.000121	0.145885±0.000999	0.001302±0.000013
975	96.2±3.6	19.32	1.08	3214	2.74E-15	0.97	0.616018±0.000264	0.376997±0.000226	0.005723±0.000056	0.183393±0.001418	0.001732±0.000015
1050	96.1±7.3	8.49	0.49	864	1.46E-15	0.99	0.749317±0.000327	0.201701±0.000142	0.004062±0.000038	0.214159±0.000780	0.002380±0.000016
1150	102.2±12.2	10.26	0.4	1971	7.28E-16	1	0.308123±0.000301	0.094357±0.000110	0.001610±0.000044	0.123788±0.000518	0.000970±0.000013

Packet IRR298-DZ, Experiment #12z0012, 0.1502 g Dacite, all errors ±1 sigma
J = 0.0001688731643±3.20728E-07

40Ar* is radiogenic argon, isotopes in volts (2.30e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated K2O = 3.29%wt., Calculated CaO = 1.81%wt., Calculated Cl = 0.2ppm

Total Gas Age = 99.0 ± 0.6 ka

Weighted Mean Plateau Age = 98.8 ± 0.6 ka (±1 sigma, including ±J), 100.0% 39Ar released
Weighted Mean Plateau Age = 98.8 ± 0.5 ka (A priori, including ±J), 100.0% 39Ar released
Weighted Mean Plateau Age = 98.8 ± 0.5 ka (A priori, without ±J)
MSWD = 1.17 (Good fit, MSWD < 2.05)
Steps 11 of 11 (550,600,650,700,750,800,850,900,975,1050,1150°C)

Isochron Age = 97.6 ± 1.3 ka (±1 sigma, including ±J)
Isochron Age = 97.6 ± 1.2 ka (A Priori Errors, including ±J)
Isochron Age = 97.6 ± 3.0 ka (95% confidence, including ±J)
MSWD = 1.17 (Good fit, MSWD < 2.11)
40Ar/36Ar intercept = 297.1 ± 1.7 (±1 sigma)
40Ar/36Ar intercept = 297.1 ± 1.6 (A Priori)
40Ar/36Ar intercept = 297.1 ± 4.0 (95% confidence)
Steps 11 of 11 (550,600,650,700,750,800,850,900,975,1050,1150°C)

M-815 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	3765.6±127.9	32.01	0.37	-47264	4.23E-15	0.01	0.271261±0.000219	0.009239±0.000042	0.000238±0.000015	0.013219±0.000196	0.000628±0.000010
625	3734.8±29.3	44.95	0.39	-4180	2.95E-14	0.05	1.346560±0.000933	0.064945±0.000099	0.001258±0.000023	0.086811±0.000711	0.002533±0.000015
700	3750.1±12.0	72.11	0.47	25461	6.36E-14	0.14	1.811400±0.000990	0.139546±0.000151	0.002180±0.000085	0.156836±0.000401	0.001753±0.000013
750	3716.9±9.4	79.31	0.66	-6835	7.81E-14	0.25	2.023117±0.000655	0.172905±0.000153	0.002431±0.000066	0.137643±0.001121	0.001455±0.000013
800	3708.6±7.0	93.05	1.12	-43735	9.13E-14	0.37	2.014450±0.000718	0.202394±0.000191	0.002730±0.000052	0.094908±0.001194	0.000500±0.000010
850	3711.6±6.4	94.41	1.5	-26401	9.18E-14	0.5	1.997286±0.000691	0.203428±0.000171	0.002712±0.000037	0.071147±0.000553	0.000397±0.000009
900	3698.8±6.6	94.43	1.65	-68894	8.46E-14	0.62	1.839534±0.000730	0.188055±0.000170	0.002525±0.000043	0.059962±0.001090	0.000363±0.000009
975	3688.3±7.1	94.01	1.58	-11781	8.74E-14	0.75	1.908756±0.000700	0.194808±0.000163	0.002563±0.000045	0.064683±0.000287	0.000404±0.000010
1050	3677.1±8.4	93.28	1.35	28998	6.32E-14	0.84	1.390437±0.000490	0.141239±0.000111	0.001937±0.000051	0.055043±0.000544	0.000331±0.000009
1125	3661.7±10.2	91.87	1.03	-32789	4.59E-14	0.9	1.025515±0.000468	0.103040±0.000116	0.001394±0.000034	0.052239±0.000311	0.000296±0.000008
1200	3660.5±11.7	87.28	0.74	2437	4.48E-14	0.97	1.053186±0.000378	0.100576±0.000138	0.001585±0.000064	0.071621±0.000250	0.000473±0.000009
1275	3609.4±23.5	80.75	0.16	27068	2.30E-14	1	0.584531±0.000314	0.052471±0.000085	0.000773±0.000014	0.169488±0.000947	0.000428±0.000010

Packet IRR313-OB, Experiment #13Z0100, 0.0513 g Basalt, all errors ±1 sigma
J = 0.000222124±2.0657E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.798 ± 0.322, Calculated K2O = 2.59%wt., Calculated CaO = 3.97%wt., Calculated Cl = -4.1e-2ppm

Total Gas Age = 3699.0 ± 4.5 ka

Weighted Mean Plateau Age = 3711.6 ± 5.5 ka (±1 sigma, including ±J), 36.8% 39Ar released
Weighted Mean Plateau Age = 3711.6 ± 5.5 ka (A priori, including ±J), 36.8% 39Ar released
Weighted Mean Plateau Age = 3711.6 ± 4.2 ka (A priori, without ±J)
MSWD = 0.25 (Good fit, MSWD < 3.69)
Steps 3 of 12 (750,800,850°C)

Isochron Age = 3708.2 ± 7.9 ka (±1 sigma, including ±J)
Isochron Age = 3708.2 ± 7.9 ka (A Priori Errors, including ±J)
Isochron Age = 3708.2 ± 16.5 ka (95% confidence, including ±J)
MSWD = 0.14 (Good fit, MSWD < 5.02)
40Ar/36Ar intercept = 298.0 ± 4.3 (±1 sigma)
40Ar/36Ar intercept = 298.0 ± 4.3 (A Priori)
40Ar/36Ar intercept = 298.0 ± 9.8 (95% confidence)
Steps 3 of 12 (750,800,850°C)

Selected Steps TGA Age = 3699.0 ± 3.1 ka (no ±J); 3699.0 ± 4.6 ka (with ±J)

Recoil Age = 3700.2 ± 11.6 ka (±1 sigma, inverse errors * MSWD), 100.0% 39Ar released
Recoil Age = 3700.2 ± 7.1 ka (±1 sigma, inverse errors (no ±J) * MSWD), 100.0% 39Ar released
MSWD = 7.09 (Poor fit, MSWD > 1.99)
Steps 12 of 12 (550,625,700,750,800,850,900,975,1050,1125,1200,1275°C)

M-816 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	3737.7±59.1	70.19	0.33	-1327	7.12E-15	0.01	0.208413±0.000214	0.015680±0.000054	0.000195±0.000025	0.024555±0.000262	0.000217±0.000008
625	3354.8±17.0	78.33	0.46	16833	3.21E-14	0.04	0.840399±0.000297	0.078596±0.000103	0.001170±0.000025	0.089560±0.000506	0.000641±0.000011
700	3280.7±6.3	88.38	0.68	-6027	8.77E-14	0.14	2.038052±0.000630	0.219855±0.000181	0.002886±0.000047	0.170570±0.000300	0.000849±0.000010
750	3285.8±5.1	92.58	0.95	-38872	1.19E-13	0.26	2.649562±0.000767	0.298886±0.000244	0.004022±0.000050	0.164693±0.000945	0.000711±0.000011
800	3270.0±4.0	94.22	1.25	-21341	1.56E-13	0.43	3.403149±0.001043	0.392542±0.000259	0.005207±0.000018	0.165239±0.000648	0.000711±0.000011
850	3273.2±3.6	95.01	1.63	-13568	1.70E-13	0.62	3.671432±0.001175	0.426613±0.000232	0.005590±0.000053	0.137275±0.000748	0.000657±0.000011
900	3279.3±4.3	93.83	1.55	-16512	1.59E-13	0.79	3.474827±0.000941	0.397990±0.000299	0.005265±0.000109	0.135020±0.000651	0.000763±0.000011
950	3288.4±6.7	90.17	1.04	-42882	8.67E-14	0.88	1.975117±0.000603	0.216826±0.000160	0.002953±0.000076	0.109695±0.000752	0.000687±0.000011
1025	3280.4±14.5	74.99	0.49	-9645	3.75E-14	0.92	1.026553±0.000387	0.093992±0.000094	0.001358±0.000066	0.099683±0.000439	0.000896±0.000011
1100	3256.1±19.9	61.59	0.46	38304	2.90E-14	0.95	0.965566±0.000348	0.073160±0.000101	0.001206±0.000023	0.083363±0.000571	0.001278±0.000012
1200	3234.1±16.7	58.62	0.47	6830	4.35E-14	1	1.525158±0.000502	0.110733±0.000090	0.001927±0.000061	0.124753±0.000324	0.002170±0.000015

Packet IRR313-NZ, Experiment #13Z0101, 0.1001 g Basalt, all errors ±1 sigma
J = 0.00022204±3.14968E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.935 ± 0.401, Calculated K2O = 1.96%wt., Calculated CaO = 2.57%wt., Calculated Cl = -0.1ppm

Total Gas Age = 3281.2 ± 5.1 ka

Weighted Mean Plateau Age = 3277.3 ± 6.7 ka (±1 sigma, including ±J), 88.0% 39Ar released
Weighted Mean Plateau Age = 3277.3 ± 5.0 ka (A priori, including ±J), 88.0% 39Ar released
Weighted Mean Plateau Age = 3277.3 ± 1.9 ka (A priori, without ±J)
MSWD = 1.80 (Good fit, MSWD < 2.40)
Steps 7 of 11 (700,750,800,850,900,950,1025°C)

Isochron Age = 3271.9 ± 7.0 ka (±1 sigma, including ±J)
Isochron Age = 3271.9 ± 6.1 ka (A Priori Errors, including ±J)
Isochron Age = 3271.9 ± 12.8 ka (95% confidence, including ±J)
MSWD = 1.68 (Good fit, MSWD < 2.56)
40Ar/36Ar intercept = 301.6 ± 5.4 (±1 sigma)
40Ar/36Ar intercept = 301.6 ± 4.1 (A Priori)
40Ar/36Ar intercept = 301.6 ± 12.4 (95% confidence)
Steps 7 of 11 (700,750,800,850,900,950,1025°C)

M-869 Feldspar

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
600	36.7±268.5	0.44	0.23	-560	1.82E-17	0	0.084121±0.000153	0.003887±0.000028	0.000074±0.000018	0.008891±0.000072	0.000286±0.000009
700	50.0±104.8	0.45	0.35	-3964	8.73E-17	0.01	0.395446±0.000241	0.013702±0.000052	0.000415±0.000030	0.020303±0.000147	0.001338±0.000013
800	83.2±24.1	5.49	0.33	6360	5.25E-16	0.05	0.196390±0.000181	0.049471±0.000108	0.000803±0.000037	0.077670±0.000369	0.000650±0.000011
900	49.1±9.4	10.76	0.42	-51085	6.97E-16	0.13	0.133097±0.000158	0.111422±0.000138	0.001533±0.000069	0.137808±0.000638	0.000440±0.000009
1000	52.0±5.8	17.09	0.47	-12134	1.24E-15	0.27	0.148666±0.000141	0.186726±0.000130	0.002470±0.000059	0.208479±0.000826	0.000475±0.000010
1100	61.7±4.1	22.89	0.46	-7516933	1.94E-15	0.45	0.174075±0.000188	0.246673±0.000186	0.003332±0.000075	0.279121±0.000955	0.000532±0.000009
1175	64.2±4.2	26.1	0.4	-71383	2.06E-15	0.63	0.161733±0.000151	0.251155±0.000206	0.003368±0.000031	0.325715±0.000913	0.000495±0.000009
1250	60.5±4.2	32.74	0.39	36421	1.77E-15	0.8	0.111196±0.000154	0.229859±0.000172	0.003102±0.000092	0.306959±0.000434	0.000339±0.000008
1325	71.5±6.3	18.61	0.4	3509	1.48E-15	0.92	0.163453±0.000186	0.162537±0.000124	0.002423±0.000028	0.214237±0.000364	0.000510±0.000009
1400	62.2±10.4	22.34	0.42	-5935	7.09E-16	0.98	0.065217±0.000143	0.089421±0.000109	0.001145±0.000028	0.111376±0.000354	0.000202±0.000008
1475	154.9±36.3	24.55	0.31	2114	4.91E-16	1	0.041086±0.000203	0.024881±0.000057	0.000398±0.000039	0.042070±0.000273	0.000117±0.000008

Packet IRR314-PI, Experiment #13Z0110, 0.1035 g Sanidine, all errors ±1 sigma
J = 0.000211512±2.47926E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.414 ± 0.137, Calculated K2O = 1.17%wt., Calculated CaO = 3.46%wt., Calculated Cl = 2.5e-2ppm

Total Gas Age = 63.1 ± 2.5 ka

Weighted Mean Plateau Age = 61.4 ± 2.0 ka (±1 sigma, including ±J), 98.2% 39Ar released
Weighted Mean Plateau Age = 61.4 ± 2.0 ka (A priori, including ±J), 98.2% 39Ar released
Weighted Mean Plateau Age = 61.4 ± 2.0 ka (A priori, without ±J)
MSWD = 0.91 (Good fit, MSWD < 2.11)
Steps 10 of 11 (600,700,800,900,1000,1100,1175,1250,1325,1400°C)

Isochron Age = 60.8 ± 2.7 ka (±1 sigma, including ±J)
Isochron Age = 60.8 ± 2.7 ka (A Priori Errors, including ±J)
Isochron Age = 60.8 ± 6.3 ka (95% confidence, including ±J)
MSWD = 1.04 (Good fit, MSWD < 2.19)
40Ar/36Ar intercept = 295.9 ± 2.4 (±1 sigma)
40Ar/36Ar intercept = 295.9 ± 2.4 (A Priori)
40Ar/36Ar intercept = 295.9 ± 5.6 (95% confidence)
Steps 10 of 11 (600,700,800,900,1000,1100,1175,1250,1325,1400°C)

INYO04-461 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	78.5±51.0	3.57	0.35	-11796	2.08E-16	0.01	0.120741±0.000132	0.021870±0.000058	0.000354±0.000022	0.032865±0.000813	0.000403±0.000009
600	185.9±19.3	10.86	0.39	56204	1.64E-15	0.03	0.309128±0.000281	0.071923±0.000103	0.001127±0.000049	0.096236±0.000331	0.000959±0.000012
650	191.1±11.3	15.58	0.43	-7184	3.06E-15	0.07	0.403779±0.000533	0.131085±0.000151	0.001864±0.000041	0.158790±0.000822	0.001198±0.000012
700	189.6±7.2	21.18	0.48	-8776	4.79E-15	0.14	0.464002±0.000745	0.206355±0.000182	0.002847±0.000052	0.225126±0.001438	0.001300±0.000012

750	195.9±9.4	27.92	0.54	-4408	5.89E-15	0.22	0.433216±0.001999	0.245871±0.000269	0.003195±0.000111	0.240561±0.000619	0.001123±0.000018
800	189.3±6.2	29.83	0.6	-5442	9.38E-15	0.36	0.645739±0.001513	0.405088±0.000270	0.005298±0.000104	0.356310±0.001428	0.001632±0.000021
850	183.1±3.5	33.03	0.64	-9116	1.03E-14	0.51	0.643291±0.000517	0.462031±0.000299	0.006135±0.000042	0.381545±0.000537	0.001564±0.000013
900	190.7±3.3	38.45	0.62	-38838	1.17E-14	0.68	0.625268±0.000314	0.501901±0.000311	0.006793±0.000083	0.427440±0.001560	0.001421±0.000014
950	181.9±3.4	34.88	0.56	-48968	9.71E-15	0.82	0.571401±0.000352	0.436207±0.000287	0.005938±0.000077	0.410495±0.001099	0.001373±0.000012
1025	182.0±5.1	26.35	0.45	128928	7.36E-15	0.93	0.573427±0.000262	0.330620±0.000259	0.004631±0.000053	0.381911±0.000603	0.001535±0.000014
1100	180.7±11.1	12.67	0.34	82066	3.00E-15	0.98	0.485328±0.000269	0.135582±0.000175	0.002062±0.000044	0.211986±0.000950	0.001493±0.000013
1200	121.5±28.8	3.54	0.27	8830	9.28E-16	1	0.538231±0.000338	0.062520±0.000080	0.001183±0.000019	0.120949±0.001184	0.001791±0.000015

Packet IRR313-OI, Experiment #13Z0084mod, 0.1476 g Basalt, all errors ±1 sigma
J = 0.000220554±3.73568E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.519 ± 0.169, Calculated K2O = 1.73%wt., Calculated CaO = 4.09%wt., Calculated Cl = -0.2ppm

Total Gas Age = 184.7 ± 2.0 ka

Weighted Mean Plateau Age = 185.9 ± 1.7 ka (±1 sigma, including ±J), 97.2% 39Ar released
Weighted Mean Plateau Age = 185.9 ± 1.7 ka (A priori, including ±J), 97.2% 39Ar released
Weighted Mean Plateau Age = 185.9 ± 1.6 ka (A priori, without ±J)
MSWD = 0.77 (Good fit, MSWD < 2.11)
Steps 10 of 12 (600,650,700,750,800,850,900,950,1025,1100°C)

Isochron Age = 185.6 ± 3.8 ka (±1 sigma, including ±J)
Isochron Age = 185.6 ± 3.8 ka (A Priori Errors, including ±J)
Isochron Age = 185.6 ± 8.6 ka (95% confidence, including ±J)
MSWD = 0.85 (Good fit, MSWD < 2.19)
40Ar/36Ar intercept = 295.6 ± 2.4 (±1 sigma)
40Ar/36Ar intercept = 295.6 ± 2.4 (A Priori)
40Ar/36Ar intercept = 295.6 ± 5.3 (95% confidence)
Steps 10 of 12 (600,650,700,750,800,850,900,950,1025,1100°C)

INYO04-824 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	94.4±67.5	0.47	0.26	-912	5.64E-16	0.02	2.481158±0.001405	0.049072±0.000191	0.001979±0.000098	0.098377±0.000767	0.008385±0.000028
600	365.2±44.1	2.62	0.3	-1100	3.65E-15	0.06	2.884853±0.002519	0.082709±0.000224	0.002545±0.000031	0.142216±0.001009	0.009547±0.000030
650	284.4±27.5	3.13	0.33	-2525	5.17E-15	0.12	3.390826±0.002165	0.149095±0.000205	0.003789±0.000068	0.234252±0.000586	0.011181±0.000034
700	266.8±19.8	4.33	0.35	-3134	7.21E-15	0.22	3.420466±0.004421	0.221793±0.000387	0.004689±0.000118	0.330176±0.001873	0.011166±0.000034
750	283.4±20.1	6	0.37	-2690	8.30E-15	0.32	2.838304±0.007457	0.240347±0.000561	0.004471±0.000193	0.339365±0.001926	0.009123±0.000032
800	271.7±20.9	7.66	0.43	-4269	9.73E-15	0.45	2.609295±0.009904	0.293825±0.000846	0.005098±0.000115	0.356670±0.001567	0.008253±0.000040
850	254.2±22.7	6.79	0.57	-2504	8.78E-15	0.57	2.657970±0.006887	0.283492±0.000519	0.004813±0.000150	0.262812±0.001810	0.008457±0.000049
925	240.3±7.0	21.53	0.7	-6391	1.00E-14	0.72	0.956782±0.002570	0.342425±0.000314	0.004750±0.000077	0.254975±0.000678	0.002611±0.000018
1000	222.1±5.4	31.24	0.55	-5515	7.39E-15	0.83	0.485466±0.000628	0.272835±0.000230	0.003590±0.000067	0.257911±0.000725	0.001201±0.000012
1100	211.3±7.1	22.14	0.4	-10574	5.61E-15	0.93	0.520618±0.000602	0.218033±0.000210	0.003039±0.000028	0.282464±0.000512	0.001450±0.000013
1200	227.5±11.1	17.9	0.31	-74631	4.59E-15	1	0.526949±0.000610	0.165700±0.000180	0.002448±0.000025	0.279602±0.000646	0.001542±0.000015

Packet IRR313-OJ, Experiment #13Z0085, 0.15 g Basalt, all errors ±1 sigma
J = 0.000221327±4.09532E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.428 ± 0.123, Calculated K2O = 1.31%wt., Calculated CaO = 3.74%wt., Calculated Cl = -0.4ppm

Total Gas Age = 251.4 ± 5.6 ka

Weighted Mean Plateau Age = 229.9 ± 6.5 ka (±1 sigma, including ±J), 94.3% 39Ar released
Weighted Mean Plateau Age = 229.9 ± 3.3 ka (A priori, including ±J), 94.3% 39Ar released
Weighted Mean Plateau Age = 229.9 ± 3.3 ka (A priori, without ±J)
MSWD = 3.87 (Poor fit, MSWD > 2.19)
Steps 9 of 11 (650,700,750,800,850,925,1000,1100,1200°C)

Isochron Age = 217.8 ± 5.2 ka (±1 sigma, including ±J)
Isochron Age = 217.8 ± 4.2 ka (A Priori Errors, including ±J)
Isochron Age = 217.8 ± 12.0 ka (95% confidence, including ±J)
MSWD = 1.52 (Good fit, MSWD < 2.29)
40Ar/36Ar intercept = 298.5 ± 0.8 (±1 sigma)
40Ar/36Ar intercept = 298.5 ± 0.7 (A Priori)
40Ar/36Ar intercept = 298.5 ± 1.9 (95% confidence)
Steps 9 of 11 (650,700,750,800,850,925,1000,1100,1200°C)

INYO04-918 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	463.2±90.2	3.9	0.29	-989	1.70E-15	0.01	0.896263±0.002348	0.029501±0.000198	0.000806±0.000029	0.053172±0.000523	0.002929±0.000022
600	270.9±51.9	2.74	0.26	-959	1.91E-15	0.04	1.435417±0.003171	0.056699±0.000251	0.001377±0.000111	0.112699±0.000602	0.004756±0.000023
650	277.2±32.0	4.26	0.26	-1942	3.33E-15	0.09	1.607822±0.003903	0.096527±0.000285	0.002034±0.000099	0.196452±0.000986	0.005264±0.000023
700	241.5±22.7	6.01	0.29	-1844	4.18E-15	0.16	1.427337±0.003742	0.138871±0.000289	0.002356±0.000113	0.254934±0.000437	0.004611±0.000024
750	231.3±16.0	8.42	0.32	-3938	5.38E-15	0.25	1.312305±0.003873	0.186493±0.000321	0.003015±0.000069	0.302286±0.000631	0.004152±0.000022
800	215.3±15.1	10.61	0.39	-2777	6.21E-15	0.36	1.203210±0.005247	0.231459±0.000428	0.003372±0.000091	0.307993±0.000817	0.003726±0.000024
850	218.1±11.9	13.52	0.48	-4241	7.01E-15	0.48	1.064587±0.004344	0.257671±0.000392	0.003714±0.000130	0.278685±0.001129	0.003193±0.000022
925	221.8±8.1	17.32	0.47	-16020	9.32E-15	0.64	1.104954±0.002854	0.336875±0.000309	0.004923±0.000025	0.376916±0.001510	0.003196±0.000021
1000	200.8±7.7	15.5	0.35	162513	6.99E-15	0.78	0.926652±0.001082	0.279343±0.000199	0.004183±0.000090	0.420218±0.000984	0.002767±0.000018
1100	203.7±8.7	12.19	0.27	4772	6.78E-15	0.91	1.142613±0.000819	0.267090±0.000187	0.004396±0.000119	0.518564±0.002183	0.003540±0.000020
1200	173.0±13.6	5.95	0.24	5460	4.06E-15	1	1.402326±0.000863	0.188566±0.000172	0.003470±0.000038	0.417935±0.000457	0.004580±0.000022

Packet IRR313-OG, Experiment #13Z0086, 0.1713 g Basalt, all errors ±1 sigma
J = 0.000216301±2.44201E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.335 ± 8.974e-2, Calculated K2O = 1.05%wt., Calculated CaO = 3.82%wt., Calculated Cl = -0.2ppm

Total Gas Age = 220.6 ± 4.4 ka

Recoil Age = 210.6 ± 6.5 ka (±1 sigma, inverse errors * MSWD), 100.0% 39Ar released
Recoil Age = 210.6 ± 6.5 ka (±1 sigma, inverse errors (no ±J) * MSWD), 100.0% 39Ar released
MSWD = 2.93 (Poor fit, MSWD > 2.05)
Steps 11 of 11 (550,600,650,700,750,800,850,925,1000,1100,1200°C)

Weighted Mean Plateau Age = 222.5 ± 5.5 ka (±1 sigma, including ±J), 55.7% 39Ar released
Weighted Mean Plateau Age = 222.5 ± 5.5 ka (A priori, including ±J), 55.7% 39Ar released
Weighted Mean Plateau Age = 222.5 ± 5.5 ka (A priori, without ±J)
MSWD = 0.35 (Good fit, MSWD < 2.77)
Steps 5 of 11 (700,750,800,850,925°C)

Isochron Age = 211.8 ± 13.2 ka (±1 sigma, including ±J)
Isochron Age = 211.8 ± 13.2 ka (A Priori Errors, including ±J)
Isochron Age = 211.8 ± 30.4 ka (95% confidence, including ±J)
MSWD = 0.20 (Good fit, MSWD < 3.12)
40Ar/36Ar intercept = 297.5 ± 2.3 (±1 sigma)
40Ar/36Ar intercept = 297.5 ± 2.3 (A Priori)
40Ar/36Ar intercept = 297.5 ± 5.2 (95% confidence)
Steps 5 of 11 (700,750,800,850,925°C)

INYO04-1046 Basalt

Temp(°C)	Age(ka)	%40Ar*	K/Ca	K/Cl	moles 40Ar*	∑39Ar	40Ar	39Ar	38Ar	37Ar	36Ar
550	344.2±75.3	6.48	0.4	-25365	9.26E-16	0.01	0.293368±0.000652	0.021876±0.000072	0.000458±0.000047	0.028789±0.000195	0.000936±0.000014
600	309.0±41.4	5.83	0.39	-2298	1.71E-15	0.04	0.603476±0.001287	0.045048±0.000124	0.000869±0.000028	0.060228±0.000572	0.001940±0.000015
650	225.4±24.2	4.7	0.41	-1995	3.30E-15	0.11	1.439476±0.002079	0.118877±0.000169	0.002178±0.000082	0.150392±0.000300	0.004684±0.000024
700	221.6±16.6	5.34	0.49	-2288	4.33E-15	0.2	1.676853±0.002199	0.159913±0.000187	0.002810±0.000081	0.171392±0.000272	0.005419±0.000021
750	248.9±18.6	6.8	0.51	-5318	5.17E-15	0.3	1.559423±0.002172	0.168718±0.000217	0.003004±0.000018	0.174737±0.000545	0.004967±0.000026
800	277.5±24.4	3.75	0.51	-3617	4.05E-15	0.37	2.236688±0.002100	0.119639±0.000149	0.002795±0.000073	0.122760±0.000448	0.007319±0.000024
850	259.7±42.0	2.77	0.41	-3464	3.60E-15	0.44	2.667623±0.001661	0.112541±0.000159	0.002984±0.000032	0.145364±0.000487	0.008818±0.000040
900	244.9±14.9	10.4	0.39	-9542	3.91E-15	0.52	0.772723±0.000816	0.129877±0.000132	0.002090±0.000032	0.175428±0.000735	0.002392±0.000016
975	236.3±9.2	16.37	0.31	-5807	6.10E-15	0.64	0.765414±0.000575	0.209922±0.000147	0.003017±0.000066	0.352691±0.000829	0.002265±0.000016
1050	224.5±9.7	14.5	0.27	-8217	5.33E-15	0.75	0.755294±0.000390	0.193119±0.000183	0.002854±0.000031	0.368482±0.001690	0.002288±0.000016
1125	242.7±12.3	16.49	0.29	-20926	4.28E-15	0.84	0.533056±0.000358	0.143389±0.000131	0.002142±0.000068	0.260047±0.000460	0.001579±0.000015
1200	226.0±14.0	18.62	0.26	11744	2.74E-15	0.89	0.302141±0.000289	0.098618±0.000131	0.001492±0.000041	0.195872±0.000433	0.000887±0.000012
1300	215.5±11.4	13.22	0.1	2717	4.73E-15	1	0.734097±0.000433	0.178790±0.000149	0.003056±0.000029	0.932634±0.001245	0.002417±0.000016

Packet IRR313-OH, Experiment #13Z0087, 0.15 g Basalt, all errors ±1 sigma
J = 0.000219236±3.0778E-07

40Ar* is radiogenic argon, isotopes in volts (4.87e-14 moles/volt), corrected for blank, background, discrimination, and decay
Calculated bulk K/Ca = 0.284 ± 7.965e-2, Calculated K2O = 0.97%wt., Calculated CaO = 4.17%wt., Calculated Cl = -0.2ppm

Total Gas Age = 240.2 ± 5.3 ka

Weighted Mean Plateau Age = 232.6 ± 4.2 ka (±1 sigma, including ±J), 96.1% 39Ar released
Weighted Mean Plateau Age = 232.6 ± 4.2 ka (A priori, including ±J), 96.1% 39Ar released
Weighted Mean Plateau Age = 232.6 ± 4.2 ka (A priori, without ±J)
MSWD = 0.98 (Good fit, MSWD < 2.05)
Steps 11 of 13 (650,700,750,800,850,900,975,1050,1125,1200,1300°C)

Isochron Age = 224.0 ± 6.9 ka (±1 sigma, including ±J)
Isochron Age = 224.0 ± 6.9 ka (A Priori Errors, including ±J)
Isochron Age = 224.0 ± 15.5 ka (95% confidence, including ±J)
MSWD = 0.82 (Good fit, MSWD < 2.11)
40Ar/36Ar intercept = 296.8 ± 0.8 (±1 sigma)
40Ar/36Ar intercept = 296.8 ± 0.8 (A Priori)
40Ar/36Ar intercept = 296.8 ± 1.9 (95% confidence)
Steps 11 of 13 (650,700,750,800,850,900,975,1050,1125,1200,1300°C)