

EXP#18D25531 > 51-MCD-DRJ-17 > Groundmass > MCCLAUGHRY (18-09)
EASTERN CASCADES > MILL CREEK BUTTES
18-OSU-04 (4C22-18) > Incremental Heating > Dan Miggins

**Information on Analysis
and Constants Used in Calculations**

Project = MCCLAUGHRY (18-09)
Sample = 51-MCD-DRJ-17
Material = Groundmass
Location = Mill Creek Buttes
Region = Eastern Cascades
Analyst = Dan Miggins
Irradiation = 18-OSU-04 (4C22-18)
Position = X: 999 | Y: 999 | Z/H: 34.73 mm
FCT-NM Age = 28.201 ± 0.023 Ma
FCT-NM Reference = Kuiper et al (2008)
FCT-NM 40Ar/39Ar Ratio = 10.05398 ± 0.00744
FCT-NM J-value = 0.00156330 ± 0.00000116
Air Shot 40Ar/36Ar = 305.8360 ± 0.3395
Air Shot MDF = 0.99154011 ± 0.00063297 (LIN)
Experiment Type = Incremental Heating
Extraction Method = Bulk Laser Heating
Heating = 64 sec
Isolation = 5.10 min
Instrument = ARGUS-VI-D
Preferred Age = Mini Plateau
Age Classification = Eruption Age
IGSN = Undefined
Rock Class = Undefined
Lithology = Undefined
Lat-Lon = Undefined - Undefined
Age Equations = Min et al. (2000)
Negative Intensities = Allowed
Collector Calibrations = 36Ar
Decay 40K = 5.530 ± 0.048 E-10 1/a
Decay 39Ar = 2.940 ± 0.016 E-07 1/h
Decay 37Ar = 8.230 ± 0.012 E-04 1/h
Decay 36Cl = 2.257 ± 0.015 E-06 1/a
Decay 40K(EC,β⁺) = 0.580 ± 0.009 E-10 1/a
Decay 40K(β⁻) = 4.950 ± 0.043 E-10 1/a
Atmospheric 40/36(a) = 295.50 ± 0.70
Atmospheric 38/36(a) = 0.1869
Production 39/37(ca) = 0.0006425 ± 0.0000059
Production 38/37(ca) = 0.0001800 ± 0.0000173
Production 36/37(ca) = 0.0002703 ± 0.0000005
Production 40/39(k) = 0.000607 ± 0.000059
Production 38/39(k) = 0.012077 ± 0.000011
Production 36/38(cl) = 262.80 ± 1.71
Scaling Ratio K/Ca = 0.430
Abundance Ratio 40K/K = 1.1700 ± 0.0100 E-04
Atomic Weight K = 39.0983 ± 0.0001 g

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (Ma)	MSWD	39Ar(k) (%n)	K/Ca ± 2σ
Age Plateau		0.41826 ± 0.00275	1.18 ± 0.01	2.54	46.93	0.378 ± 0.025
Error Mean		± 0.66%	± 0.67%	1%	9	
		Full External Error ± 0.03		2.00	2σ Confidence Limit	
		Analytical Error ± 0.01		1.5935	Error Magnification	
Total Fusion Age		0.40869 ± 0.00382	1.15 ± 0.01		32	0.347 ± 0.001
		± 0.94%	± 0.95%			
		Full External Error ± 0.03				
		Analytical Error ± 0.01				
Normal Isochron	302.40 ± 11.00	0.41113 ± 0.01170	1.16 ± 0.03	2.65	46.93	
Error Chron	± 3.64%	± 2.85%	± 2.85%	1%	9	
		Full External Error ± 0.04		2.07	2σ Confidence Limit	
		Analytical Error ± 0.03		1.6283	Error Magnification	
Inverse Isochron	302.46 ± 10.89	0.41119 ± 0.01155	1.16 ± 0.03	2.62	46.93	
Error Chron	± 3.60%	± 2.81%	± 2.81%	1%	9	
		Full External Error ± 0.04		2.07	2σ Confidence Limit	
		Analytical Error ± 0.03		1.6181	Error Magnification	
				17%	Spreading Factor	

