

EXP#20F12047 > AM 2153 > Biotite > HOUCK (19-27)
SOUTH PARK > AGATE MOUNTAIN QUAD
20-OSU-01 (1D20-20) > Incremental Heating > Dan Miggins

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

Project = **HOUCK (19-27)**
Sample = **AM 2153**
Material = **Biotite**
Location = **Agate Mountain Quad**
Region = **South Park**
Analyst = **Dan Miggins**
Irradiation = **20-OSU-01 (1D20-20)**
Position = **X: 0 | Y: 0 | Z/H: 18.18568 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **9.43791 ± 0.01425**
FCT-NM J-value = **0.00164501 ± 0.00000248**
Air Shot 40Ar/36Ar = **298.0600 ± 0.4292**
Air Shot MDF = **1.00041992 ± 0.00044539 (LIN)**
Experiment Type = **Incremental Heating**
Extraction Method = **Bulk Laser Heating**
Heating = **60 sec**
Isolation = **3.12 min**
Instrument = **ARGUS-VI-F**
Preferred Age = **Plateau Age**
Age Classification = **Crystallization 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 = **5.463 ± 0.107 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 ± 0.014 E-10 1/a**
Decay 40K(β⁻) = **4.884 ± 0.099 E-10 1/a**
Atmospheric 40/36(a) = **298.56 ± 0.31**
Atmospheric 38/36(a) = **0.1885 ± 0.0003**
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 (Ga)	MSWD	39Ar(k) (% ,n)	K/Ca ± 2σ
Age Plateau		678.07241 ± 0.41419	1.371 ± 0.003	3.29	97.70	58 ± 39
Error Mean		± 0.06%	± 0.22%	0%	26	
			Full External Error ± 0.062	1.57	2σ Confidence Limit	
			Analytical Error ± 0.001	1.8150	Error Magnification	
Total Fusion Age		677.27563 ± 0.24756	1.370 ± 0.003		33	389 ± 251
		± 0.04%	± 0.21%			
			Full External Error ± 0.062			
			Analytical Error ± 0.000			
Normal Isochron	1352.49 ± 493.33	676.37324 ± 0.75594	1.369 ± 0.003	3.96	97.70	
	± 36.48%	± 0.11%	± 0.23%	0%	26	
			Full External Error ± 0.062	1.58	2σ Confidence Limit	
			Analytical Error ± 0.001	1.9887	Error Magnification	
Inverse Isochron	788.75 ± 253.48	677.49364 ± 0.61751	1.371 ± 0.003	2.78	97.70	
	± 32.14%	± 0.09%	± 0.22%	0%	26	
			Full External Error ± 0.062	1.58	2σ Confidence Limit	
			Analytical Error ± 0.001	1.6666	Error Magnification	
				1%	Spreading Factor	

