



Geochemistry, Geophysics, Geosystems

Supporting Information for

Dating Clinopyroxene Phenocrysts in Submarine Basalts using $^{40}\text{Ar}/^{39}\text{Ar}$ Geochronology

Kevin Konrad^{1*}, Anthony A.P. Koppers¹, Andrea M. Balbas^{1,2}, Daniel P. Miggins¹, Daniel Heaton¹

¹ College of Earth, Ocean and Atmospheric Science, Oregon State University, Corvallis, OR, USA

² Department of Geological and Planetary Sciences, California Institute of Technology, Pasadena, CA, USA

Contents of this file

Individual Heating Experiment and Stacked Results 1 - 20

Introduction

Below are supplementary information for the age determinations present within Table 1. They include information for the age plateau, total fusion, normal isochron and inverse isochron. In addition, all production rates, decay constants and natural abundances used are displayed.

EXP#17D02237 > NWO-1 > Clinopyroxene > KOPPERS (16-PIL-05)
WPSP > NORTH-WOD EN
16-OSU-10 (10B27-16) > Incremental Heating > Dan Miggins

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

Project = KOPPERS (16-PIL-05)
 Sample = NWO-1
 Material = Clinopyroxene
 Location = North-Wod En
 Region = WPSP
 Analyst = Dan Miggins
 Irradiation = 16-OSU-10 (10B27-16)
 Position = X: 0 | Y: 0 | Z/H: 39.83503 mm
 FCT-NM Age = 28.201 ± 0.023 Ma
 FCT-NM Reference = Kuiper et al (2008)
 FCT-NM 40Ar/39Ar Ratio = 5.98291 ± 0.00532
 FCT-NM J-value = 0.00262705 ± 0.00000234
 Air Shot 40Ar/36Ar = 305.2280 ± 0.3571
 Air Shot MDF = 0.99202189 ± 0.00064053 (LIN)
 Experiment Type = Incremental Heating
 Extraction Method = Bulk Laser Heating
 Heating = 77 sec
 Isolation = 3.00 min
 Instrument = ARGUS-VI-D
 Preferred Age = Plateau Age
 Age Classification = Crystallization Age
 IGSN = xxxxxxxxx
 Rock Class = Undefined
 Lithology = Basalt
 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
 Atmospheric 38/36(a) = 0.1869
 Production 39/37(ca) = 0.0006756 ± 0.0000089
 Production 38/37(ca) = 0.0000718 ± 0.0000092
 Production 36/37(ca) = 0.0002663 ± 0.0000004
 Production 40/39(k) = 0.003823 ± 0.000102
 Production 38/39(k) = 0.012031 ± 0.000019
 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
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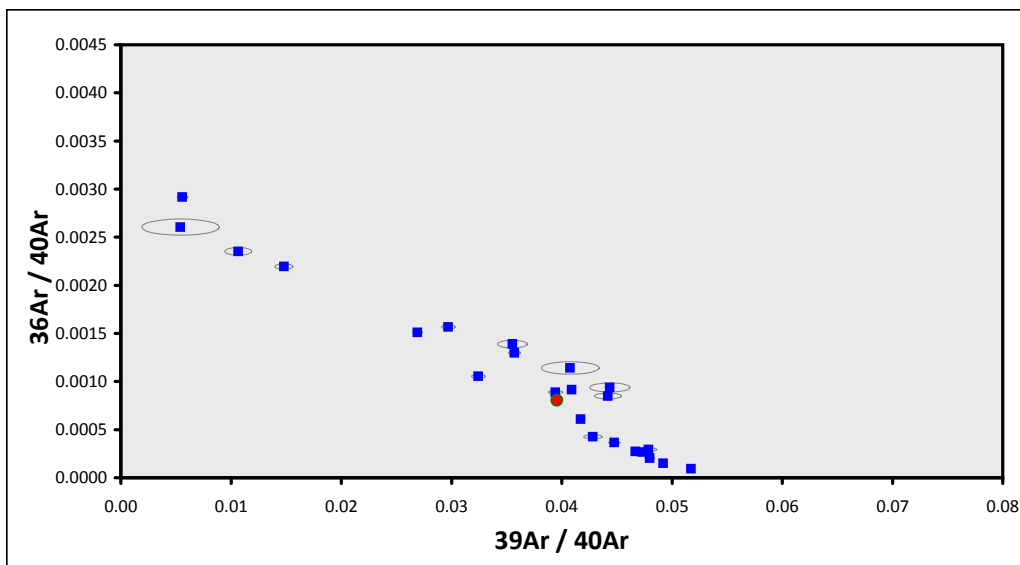
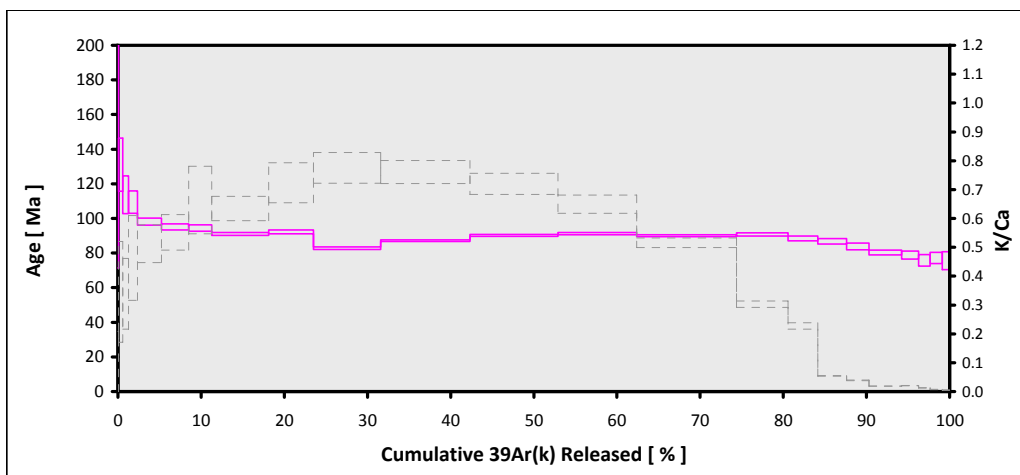
Age Plateau
 Cannot Calculate

Total Fusion Age	19.25563 ± 0.05903 ± 0.31%	89.24 ± 0.31 ± 0.35%	23	0.093 ± 0.000
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Full External Error ± 2.01
 Analytical Error ± 0.27

Normal Isochron
 Cannot Calculate

Inverse Isochron
 Cannot Calculate



EXP#17D02129 > HIM-3 > Clinopyroxene > KOPPERS (16-PIL-05)
WPSP > HIMU SEAMOUNT
16-OSU-10 (10B23-16) > Incremental Heating > Dan Miggins

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

Project = KOPPERS (16-PIL-05)
 Sample = HIM-3
 Material = Clinopyroxene
 Location = Himu Seamount
 Region = WPSP
 Analyst = Dan Miggins
 Irradiation = 16-OSU-10 (10B23-16)
 Position = X: 0 | Y: 0 | Z/H: 34.57302 mm
 FCT-NM Age = 28.201 ± 0.023 Ma
 FCT-NM Reference = Kuiper et al (2008)
 FCT-NM 40Ar/39Ar Ratio = 5.92151 ± 0.00533
 FCT-NM J-value = 0.00265429 ± 0.00000239
 Air Shot 40Ar/36Ar = 305.1420 ± 0.3662
 Air Shot MDF = 0.99209019 ± 0.00064397 (LIN)
 Experiment Type = Incremental Heating
 Extraction Method = Bulk Laser Heating
 Heating = 77 sec
 Isolation = 3.00 min
 Instrument = ARGUS-VI-D
 Preferred Age = Plateau Age
 Age Classification = Crystallization Age
 IGSN = xxxxxxxxx
 Rock Class = Undefined
 Lithology = Basalt
 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
 Atmospheric 38/36(a) = 0.1869
 Production 39/37(ca) = 0.0006756 ± 0.0000089
 Production 38/37(ca) = 0.0000718 ± 0.0000092
 Production 36/37(ca) = 0.0002663 ± 0.0000004
 Production 40/39(k) = 0.003823 ± 0.000102
 Production 38/39(k) = 0.012031 ± 0.000019
 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

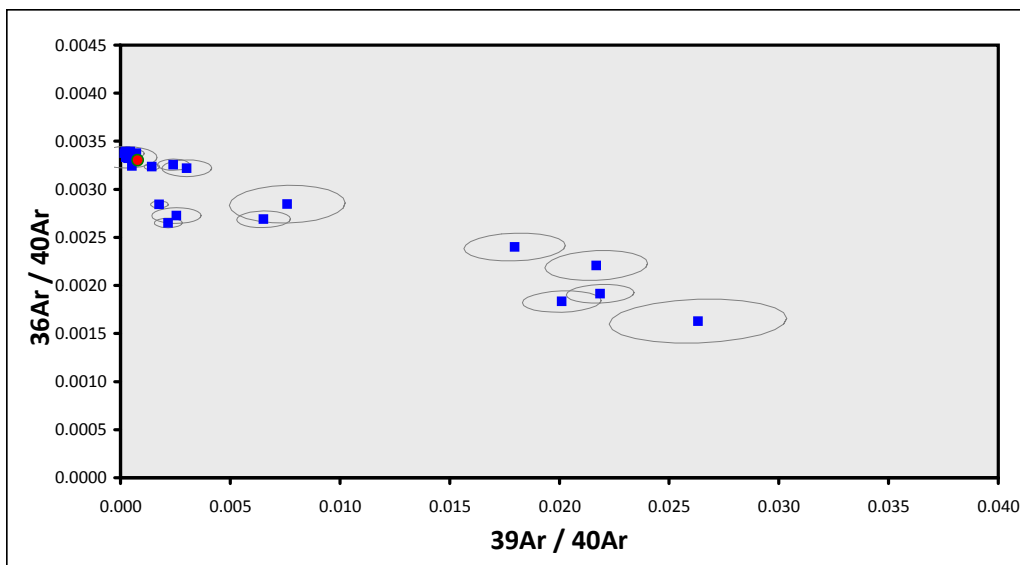
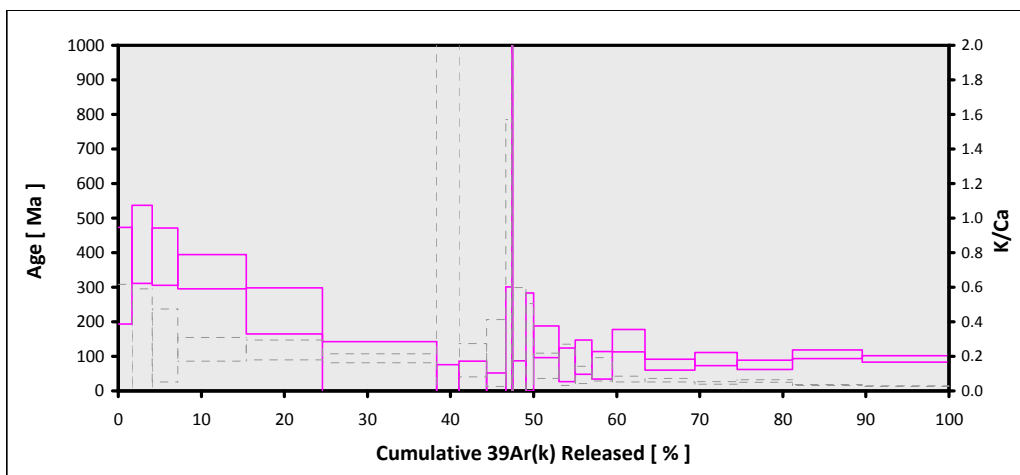
Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (Ma)	MSWD	39Ar(k) (%n)	K/Ca ± 2σ
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Age Plateau
 Cannot Calculate

Total Fusion Age	30.28985 ± 3.17089 ± 10.47%	139.84 ± 14.09 ± 10.08%	23	0.078 ± 0.004
		Full External Error ± 14.43		
		Analytical Error ± 14.09		

Normal Isochron
 Cannot Calculate

Inverse Isochron
 Cannot Calculate



EXP#17D13614 > HIM-3 > Clinopyroxene > KOPPERS (16-PIL-05)
WPSP > HIMU SEAMOUNT
16-OSU-10 (10B22-16) > Incremental Heating > Dan Miggins

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

Project = KOPPERS (16-PIL-05)
 Sample = HIM-3
 Material = Clinopyroxene
 Location = Himu Seamount
 Region = WPSP
 Analyst = Dan Miggins
 Irradiation = 16-OSU-10 (10B22-16)
 Position = X: 0 | Y: 0 | Z/H: 32.7694 mm
 FCT-NM Age = 28.201 ± 0.023 Ma
 FCT-NM Reference = Kuiper et al (2008)
 FCT-NM 40Ar/39Ar Ratio = 5.90253 ± 0.00531
 FCT-NM J-value = 0.00266282 ± 0.00000240
 Air Shot 40Ar/36Ar = 302.1780 ± 0.4805
 Air Shot MDF = 0.99446797 ± 0.00069862 (LIN)
 Experiment Type = Incremental Heating
 Extraction Method = Bulk Laser Heating
 Heating = 77 sec
 Isolation = 3.00 min
 Instrument = ARGUS-VI-D
 Preferred Age = Plateau Age
 Age Classification = Crystallization Age
 IGSN = xxxxxxxxx
 Rock Class = Undefined
 Lithology = Basalt
 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
 Atmospheric 38/36(a) = 0.1869
 Production 39/37(ca) = 0.0006756 ± 0.0000089
 Production 38/37(ca) = 0.0000718 ± 0.0000092
 Production 36/37(ca) = 0.0002663 ± 0.0000004
 Production 40/39(k) = 0.003823 ± 0.000102
 Production 38/39(k) = 0.012031 ± 0.000019
 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

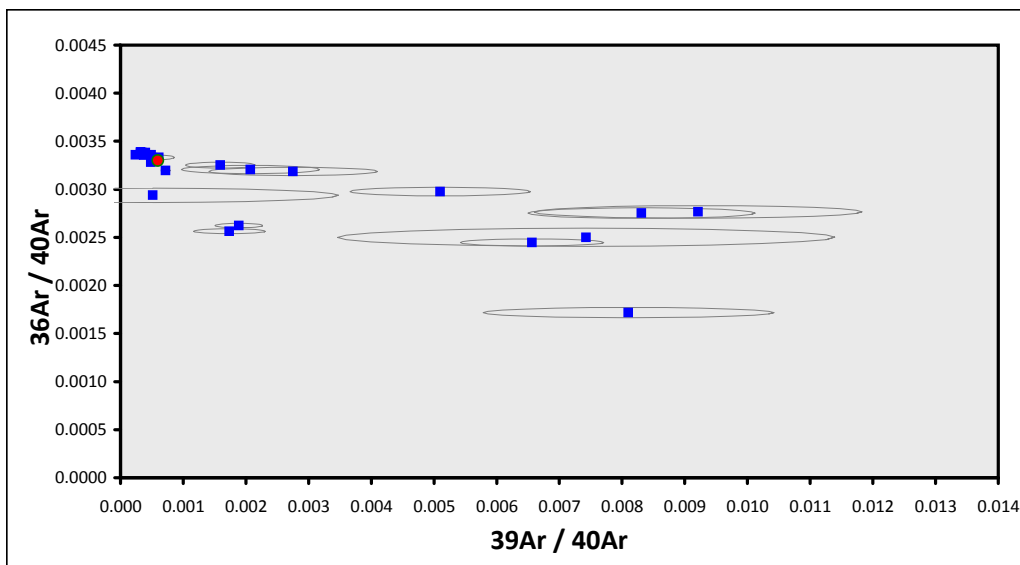
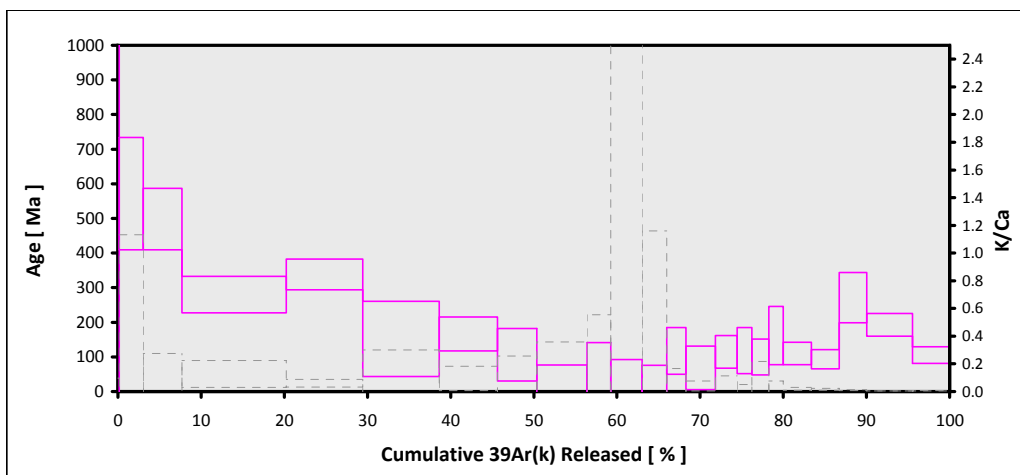
Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (Ma)	MSWD	39Ar(k) (%n)	K/Ca ± 2σ
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Age Plateau
 Cannot Calculate

Total Fusion Age	41.88363 ± 3.84326 ± 9.18%	191.20 ± 16.65 ± 8.71%	23	0.0281 ± 0.0030
		Full External Error ± 17.18		
		Analytical Error ± 16.65		

Normal Isochron
 Cannot Calculate

Inverse Isochron
 Cannot Calculate

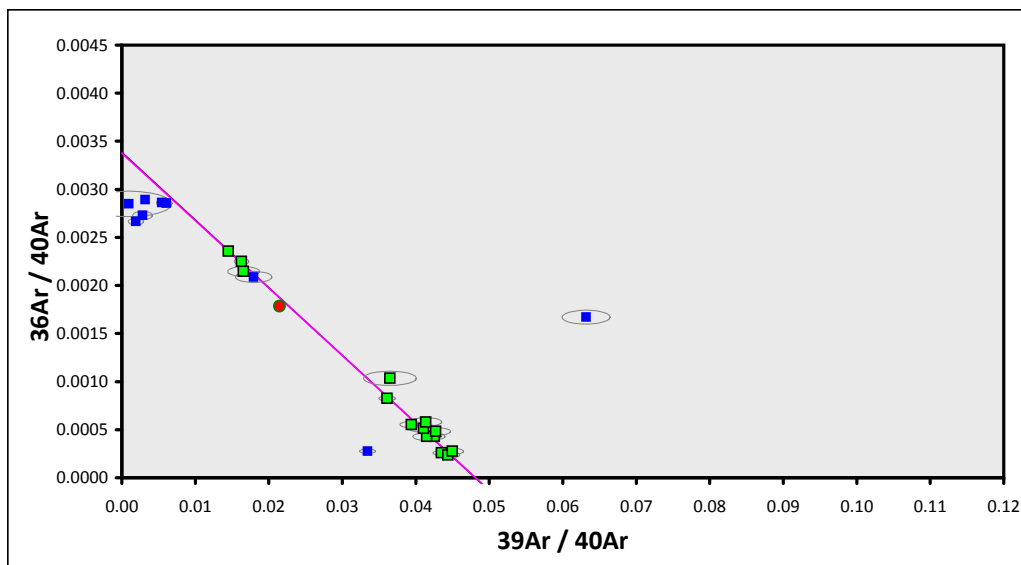
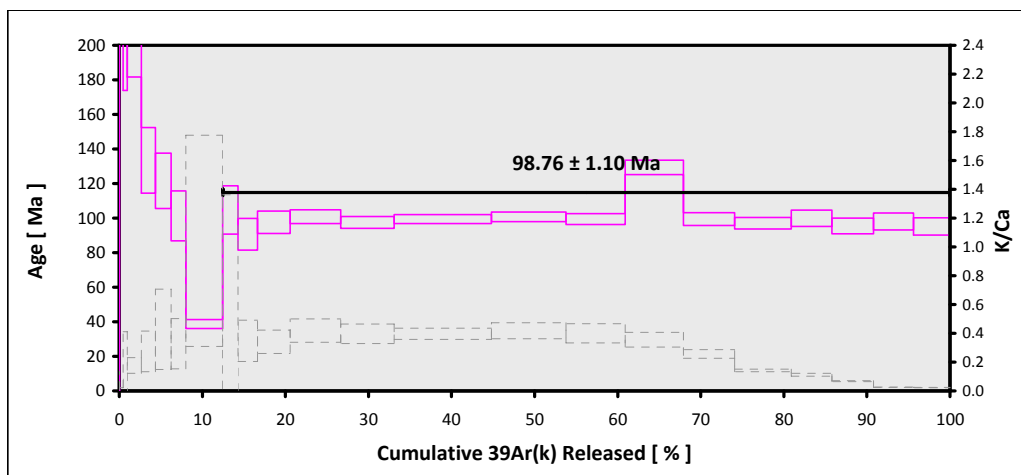


**EXP#17D02276 > MAL-2 BROWN > Clinopyroxene > KOPPERS (16-PIL-05)
 WPSP > MALONEY
 16-OSU-10 (10B16-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Sample = **MAL-2 BROWN**
 Material = **Clinopyroxene**
 Location = **Maloney**
 Region = **WPSP**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B16-16)**
 Position = **X: 0 | Y: 0 | Z/H: 23.91162 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.82384 ± 0.00530**
 FCT-NM J-value = **0.00269880 ± 0.00000246**
 Air Shot 40Ar/36Ar = **305.1990 ± 0.3632**
 Air Shot MDF = **0.99204492 ± 0.00064276 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		20.79828 ± 0.23597 ± 1.13%	98.76 ± 1.10 ± 1.12% Full External Error ± 2.46 Analytical Error ± 1.09	1.07 38% 1.78 1.0366	80.51 14 2σ Confidence Limit Error Magnification	0.030 ± 0.013
Total Fusion Age		22.00685 ± 0.26497 ± 1.20%	104.33 ± 1.23 ± 1.18% Full External Error ± 2.63 Analytical Error ± 1.22		23	0.135 ± 0.003
Normal Isochron	296.48 ± 4.03 ± 1.36%	20.77061 ± 0.29050 ± 1.40%	98.63 ± 1.35 ± 1.37% Full External Error ± 2.58 Analytical Error ± 1.34	1.10 35% 1.82 1.0502	80.51 14 2σ Confidence Limit Error Magnification	
Inverse Isochron	296.40 ± 4.01 ± 1.35%	20.78500 ± 0.28905 ± 1.39%	98.69 ± 1.35 ± 1.36% Full External Error ± 2.58 Analytical Error ± 1.34	1.10 36% 1.82 1.0465	80.51 14 2σ Confidence Limit Error Magnification 63% Spreading Factor	

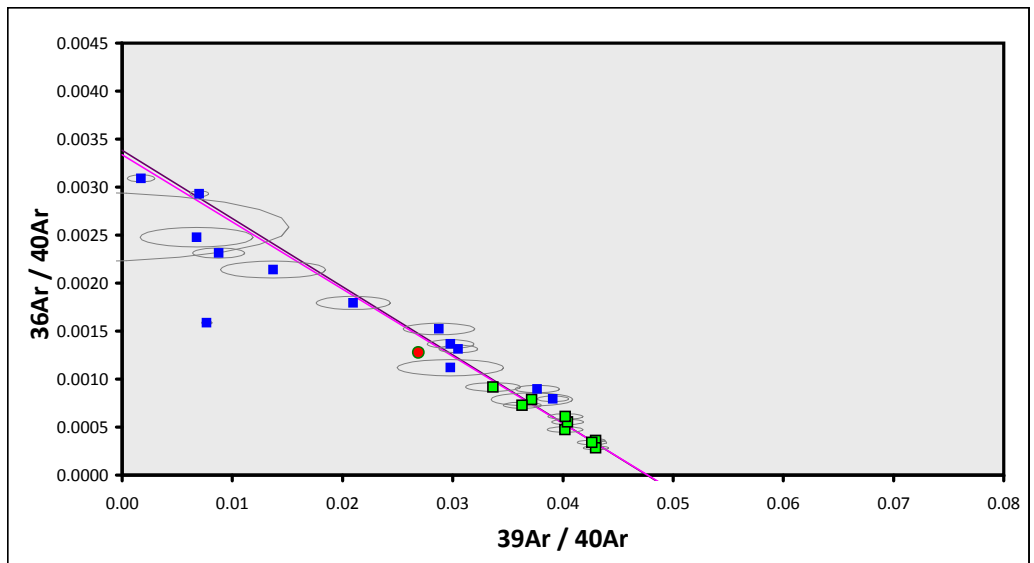
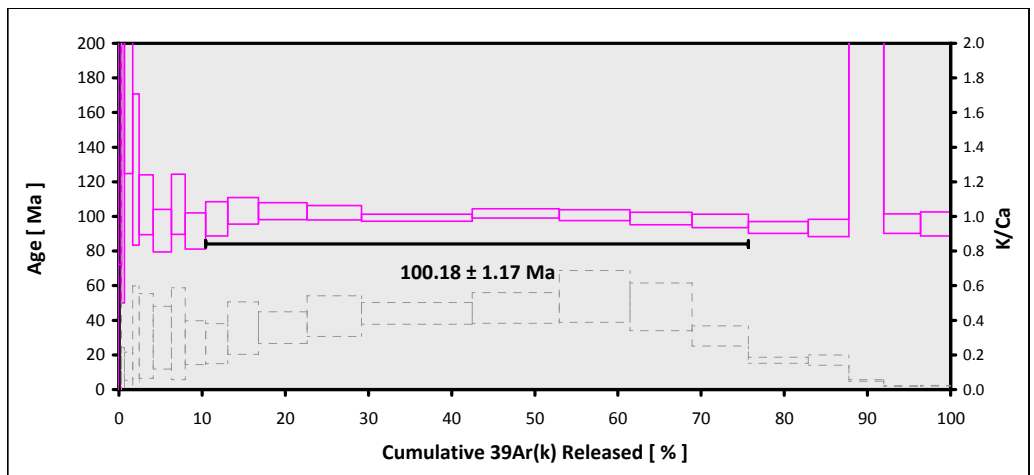


**EXP#17D03835 > MAL-2 GREEN > Clinopyroxene > KOPPERS (16-PIL-05)
 WPSP > MALONEY
 16-OSU-10 (10B13-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Sample = **MAL-2 GREEN**
 Material = **Clinopyroxene**
 Location = **Maloney**
 Region = **WPSP**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B13-16)**
 Position = **X: 0 | Y: 0 | Z/H: 19.06485 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.79115 ± 0.00533**
 FCT-NM J-value = **0.00271404 ± 0.00000250**
 Air Shot 40Ar/36Ar = **305.6650 ± 0.4004**
 Air Shot MDF = **0.99167541 ± 0.00065532 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		20.98717 ± 0.24801 ± 1.18%	100.18 ± 1.17 ± 1.16% Full External Error ± 2.52 Analytical Error ± 1.15	1.00 44%	65.25 9	0.389 ± 0.054
Total Fusion Age		23.15630 ± 0.30765 ± 1.33%	110.22 ± 1.43 ± 1.30% Full External Error ± 2.84 Analytical Error ± 1.42	2.00 1.0000	2σ Confidence Limit Error Magnification	
Normal Isochron	299.24 ± 57.24 ± 19.13%	20.95717 ± 0.66646 ± 3.18%	100.04 ± 3.10 ± 3.10% Full External Error ± 3.82 Analytical Error ± 3.09	1.14 34%	65.25 9	2.07 2σ Confidence Limit Error Magnification
Inverse Isochron	299.67 ± 55.11 ± 18.39%	20.95913 ± 0.66473 ± 3.17%	100.04 ± 3.09 ± 3.09% Full External Error ± 3.81 Analytical Error ± 3.09	1.14 34%	65.25 9	2.07 2σ Confidence Limit Error Magnification 20% Spreading Factor

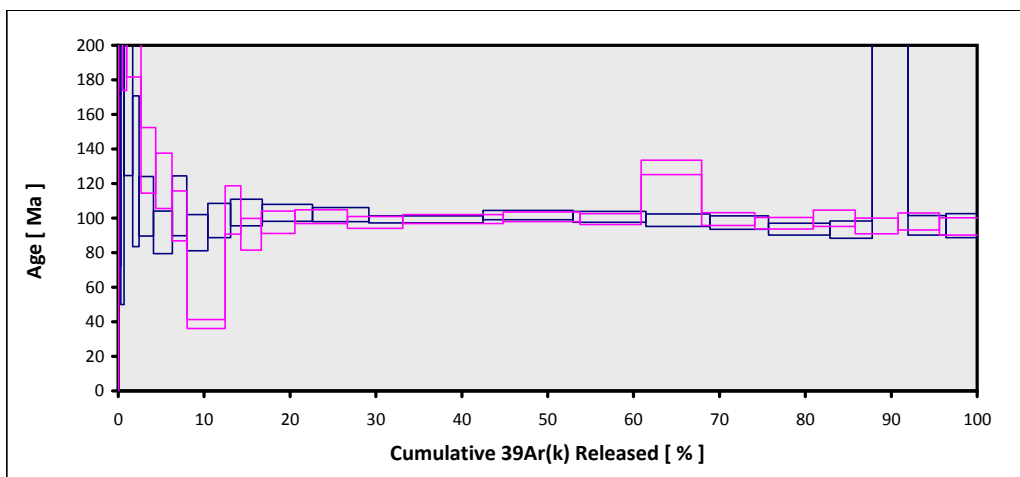


**STACK > 17D02276 > Clinopyroxene > KOPPERS (16-PIL-05)
 WPSP > MALONEY
 16-OSU-10 (10B16-16) > Incremental Heating > Dan Miggins**

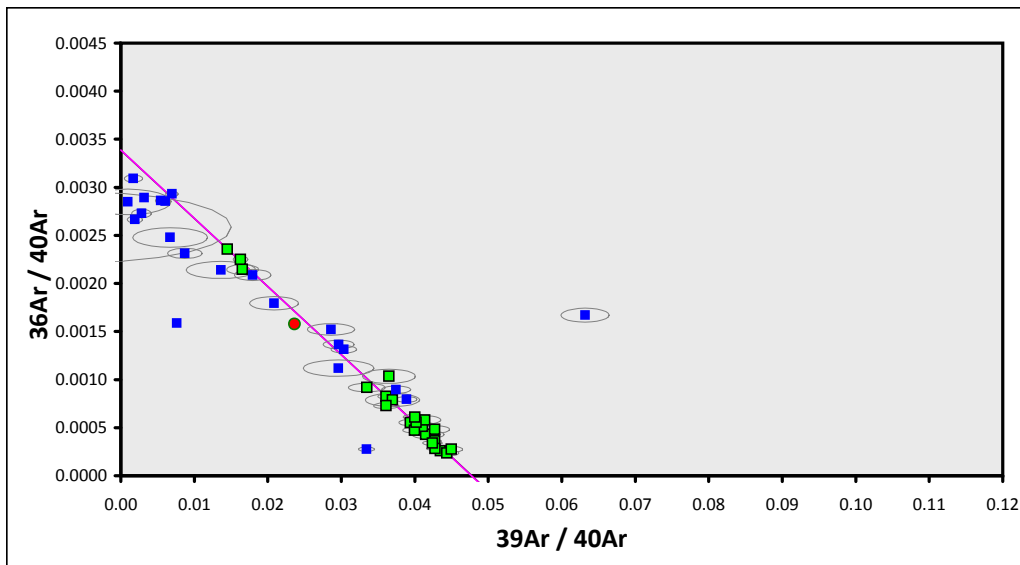
**Information on Analysis
 and Constants Used in Calculations**

Project = **KOPPERS (16-PIL-05)**
 Stack = **17D02276**
 Material = **Clinopyroxene**
 Location = **Maloney**
 Region = **WPSP**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B16-16)**
 Position = **X: 0 | Y: 0 | Z/H: 23.91162 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.82384 ± 0.00530**
 FCT-NM J-value = **0.00269880 ± 0.00000246**
 Air Shot 40Ar/36Ar = **305.1990 ± 0.3632**
 Air Shot MDF = **0.99204492 ± 0.00064276 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Eruption Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 Lat-Lon = **Undefined - Undefined**
 Age Equations = **Min et al. (2000)**
 Negative Intensities = **Allowed**
 Collector Calibrations = **40Ar 39Ar 38Ar 37Ar 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		20.93796 ± 0.18012 ± 0.86%	99.40 ± 0.85 ± 0.86%	1.15	73.40	0.030 ± 0.011
			Full External Error ± 2.37	29%	23	
			Analytical Error ± 0.83	1.60	2σ Confidence Limit	
				1.0713	Error Magnification	
Total Fusion Age		22.60340 ± 0.20158 ± 0.89%	107.08 ± 0.95 ± 0.88%		46	0.136 ± 0.002
			Full External Error ± 2.56			
			Analytical Error ± 0.93			
Normal Isochron	295.31 ± 3.94 ± 1.33%	20.95713 ± 0.21143 ± 1.01%	99.49 ± 0.99 ± 1.00%	1.18	73.40	
			Full External Error ± 2.43	26%	23	
			Analytical Error ± 0.98	1.62	2σ Confidence Limit	
				1.0850	Error Magnification	
Inverse Isochron	295.25 ± 3.92 ± 1.33%	20.96803 ± 0.21049 ± 1.00%	99.54 ± 0.99 ± 0.99%	1.17	73.40	
			Full External Error ± 2.43	27%	23	
			Analytical Error ± 0.97	1.62	2σ Confidence Limit	
				1.0802	Error Magnification	
				64%	Spreading Factor	



Stack of the two successful age determinations

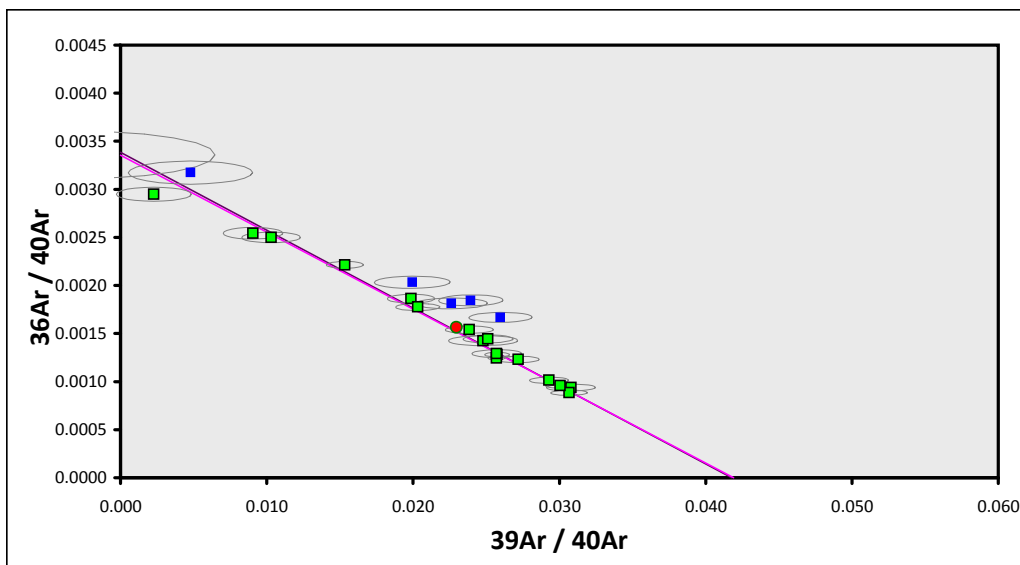
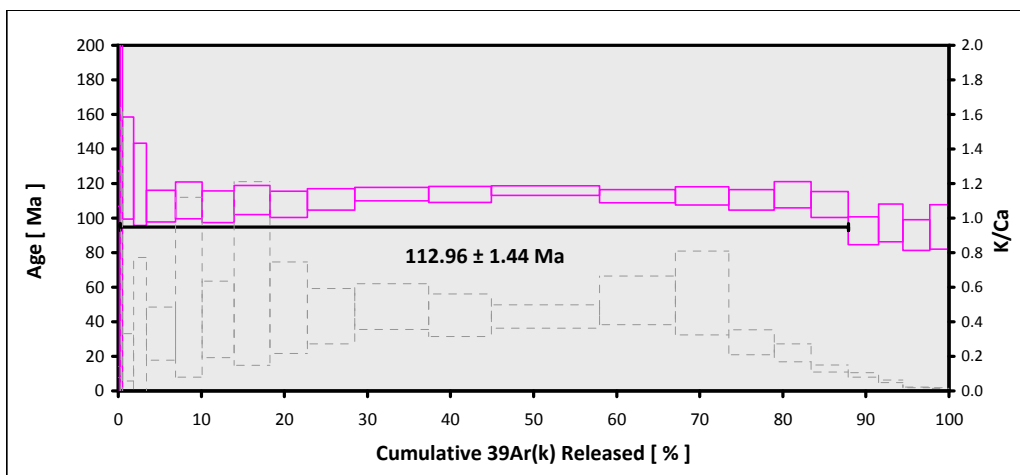


**EXP#17D03727 > JEN-4 > Clinopyroxene > KOPPERS (16-PIL-05)
 WPSP > JENNINGS
 16-OSU-10 (10B17-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Sample = **JEN-4**
 Material = **Clinopyroxene**
 Location = **Jennings**
 Region = **WPSP**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B17-16)**
 Position = **X: 0 | Y: 0 | Z/H: 25.55492 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.83655 ± 0.00531**
 FCT-NM J-value = **0.00269293 ± 0.00000245**
 Air Shot 40Ar/36Ar = **305.6250 ± 0.3973**
 Air Shot MDF = **0.99170709 ± 0.00065424 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		23.93583 ± 0.31171 ± 1.30%	112.96 ± 1.44 ± 1.27% Full External Error ± 2.89 Analytical Error ± 1.43	1.03 42% 1.71 1.0147	87.64 17 2σ Confidence Limit Error Magnification	0.199 ± 0.059
Total Fusion Age		23.38623 ± 0.35924 ± 1.54%	110.44 ± 1.66 ± 1.50% Full External Error ± 2.96 Analytical Error ± 1.65		23	0.160 ± 0.006
Normal Isochron	297.72 ± 12.03 ± 4.04%	23.86777 ± 0.69000 ± 2.89%	112.65 ± 3.16 ± 2.81% Full External Error ± 4.03 Analytical Error ± 3.16	1.34 17% 1.73 1.1576	87.64 17 2σ Confidence Limit Error Magnification	
Inverse Isochron	297.97 ± 11.96 ± 4.01%	23.86199 ± 0.68998 ± 2.89%	112.62 ± 3.16 ± 2.81% Full External Error ± 4.03 Analytical Error ± 3.16	1.34 17% 1.73 1.1588	87.64 17 2σ Confidence Limit Error Magnification Spreading Factor	

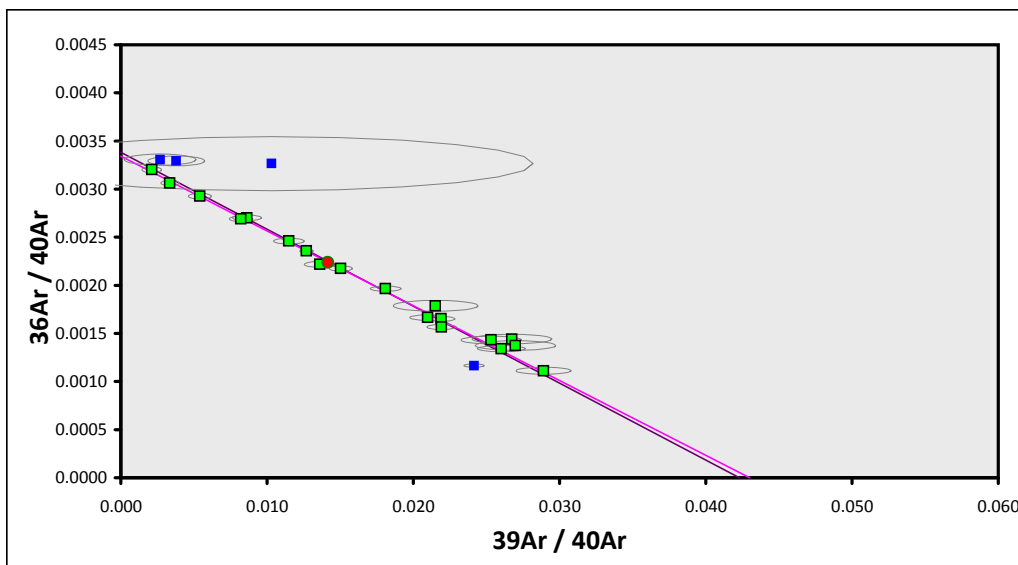
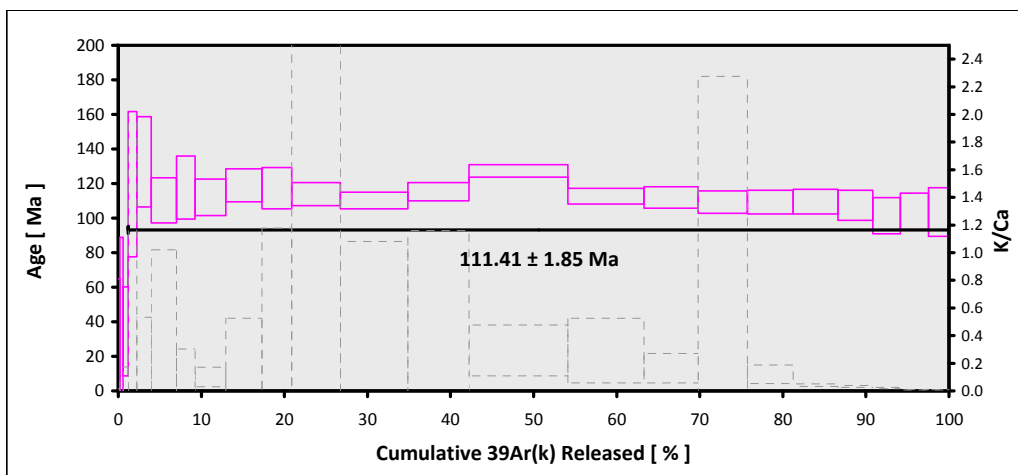


EXP#17D13680 > JEN-4 > Clinopyroxene > KOPPERS (16-PIL-05)
WPSP > JENNINGS
16-OSU-10 (10B18-16) > Incremental Heating > Dan Miggins

Information on Analysis and Constants Used in Calculations

Project = KOPPERS (16-PIL-05)
 Sample = JEN-4
 Material = Clinopyroxene
 Location = Jennings
 Region = WPSP
 Analyst = Dan Miggins
 Irradiation = 16-OSU-10 (10B18-16)
 Position = X: 0 | Y: 0 | Z/H: 27.04362 mm
 FCT-NM Age = 28.201 ± 0.023 Ma
 FCT-NM Reference = Kuiper et al (2008)
 FCT-NM 40Ar/39Ar Ratio = 5.84884 ± 0.00532
 FCT-NM J-value = 0.00268727 ± 0.00000245
 Air Shot 40Ar/36Ar = 302.1720 ± 0.4714
 Air Shot MDF = 0.99447283 ± 0.00069457 (LIN)
 Experiment Type = Incremental Heating
 Extraction Method = Bulk Laser Heating
 Heating = 77 sec
 Isolation = 3.00 min
 Instrument = ARGUS-VI-D
 Preferred Age = Plateau Age
 Age Classification = Crystallization Age
 IGSN = xxxxxxxx
 Rock Class = Undefined
 Lithology = Basalt
 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
 Atmospheric 38/36(a) = 0.1869
 Production 39/37(ca) = 0.0006756 ± 0.0000089
 Production 38/37(ca) = 0.0000718 ± 0.0000092
 Production 36/37(ca) = 0.0002663 ± 0.0000004
 Production 40/39(k) = 0.003823 ± 0.000102
 Production 38/39(k) = 0.012031 ± 0.000019
 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		23.64751 ± 0.40215 ± 1.70%	111.41 ± 1.85 ± 1.66% Full External Error ± 3.09 Analytical Error ± 1.84	1.06 39% 1.67 1.0272	86.91 19 2σ Confidence Limit Error Magnification	0.009 ± 0.002
Total Fusion Age		23.93296 ± 0.41322 ± 1.73%	112.71 ± 1.90 ± 1.68% Full External Error ± 3.14 Analytical Error ± 1.89		23	0.067 ± 0.006
Normal Isochron	299.19 ± 3.25 ± 1.09%	23.25394 ± 0.56255 ± 2.42%	109.61 ± 2.58 ± 2.35% Full External Error ± 3.55 Analytical Error ± 2.57	0.84 65% 1.69 1.0000	86.91 19 2σ Confidence Limit Error Magnification	
Inverse Isochron	299.18 ± 3.25 ± 1.09%	23.25964 ± 0.56322 ± 2.42%	109.64 ± 2.58 ± 2.36% Full External Error ± 3.55 Analytical Error ± 2.58	0.84 65% 1.69 1.0000 62%	86.91 19 2σ Confidence Limit Error Magnification Spreading Factor	

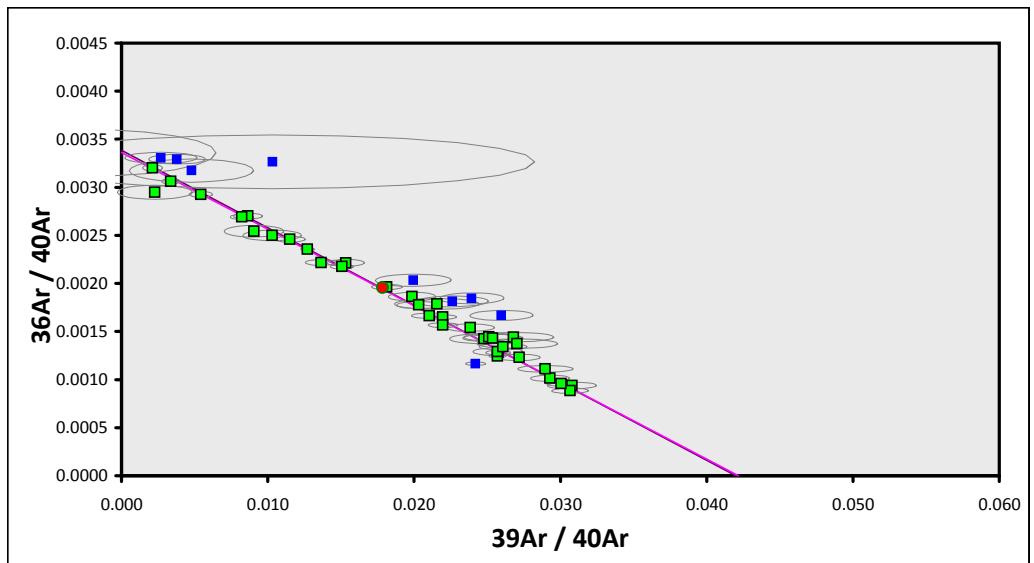
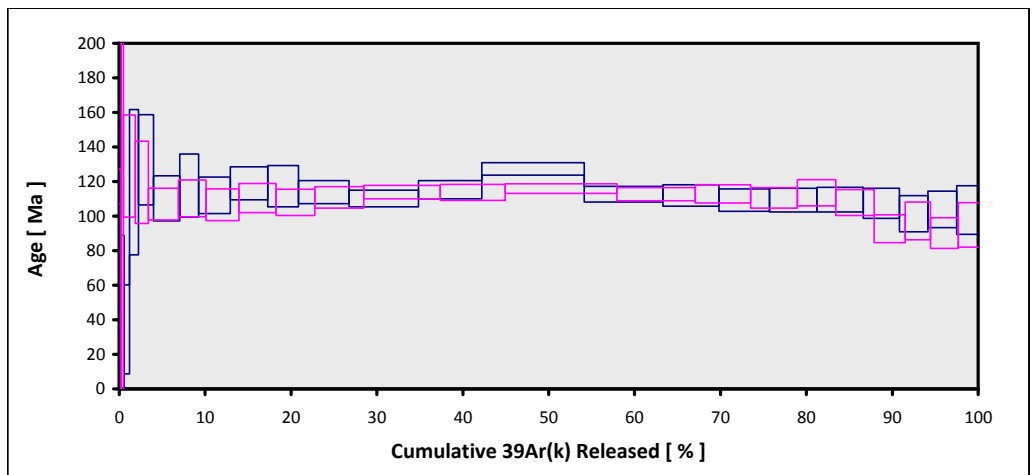


**STACK > JEN-4 CPX (N=2) > Clinopyroxene > KOPPERS (16-PIL-05)
 WPSP > JENNINGS
 16-OSU-10 (10B17-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Stack = **JEN-4 CPX (N=2)**
 Material = **Clinopyroxene**
 Location = **Jennings**
 Region = **WPSP**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B17-16)**
 Position = **X: 0 | Y: 0 | Z/H: 25.55492 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.83655 ± 0.00531**
 FCT-NM J-value = **0.00269293 ± 0.00000245**
 Air Shot 40Ar/36Ar = **305.6250 ± 0.3973**
 Air Shot MDF = **0.99170709 ± 0.00065424 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 Lat-Lon = **Undefined - Undefined**
 Age Equations = **Min et al. (2000)**
 Negative Intensities = **Allowed**
 Collector Calibrations = **40Ar 39Ar 38Ar 37Ar 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		23.80669 ± 0.24935 ± 1.05%	112.37 ± 1.16 ± 1.03% Full External Error ± 2.75 Analytical Error ± 1.14	1.07 36%	87.30 36	0.009 ± 0.004
Total Fusion Age		23.61603 ± 0.27128 ± 1.15%	111.49 ± 1.26 ± 1.13% Full External Error ± 2.78 Analytical Error ± 1.24		46	0.097 ± 0.006
Normal Isochron	297.59 ± 3.03 ± 1.02%	23.69893 ± 0.34933 ± 1.47%	111.87 ± 1.61 ± 1.44% Full External Error ± 2.96 Analytical Error ± 1.60	1.14 26%	87.30 36	1.49 2σ Confidence Limit Error Magnification
Inverse Isochron	297.59 ± 3.03 ± 1.02%	23.70621 ± 0.34940 ± 1.47%	111.91 ± 1.61 ± 1.44% Full External Error ± 2.96 Analytical Error ± 1.60	1.14 26%	87.30 36	1.49 2σ Confidence Limit 68% Spreading Factor

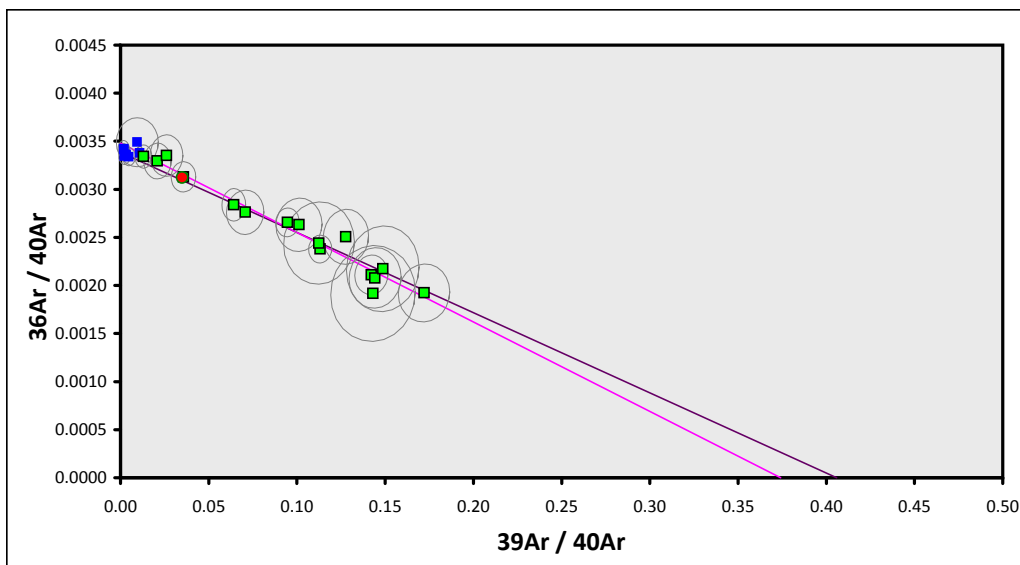
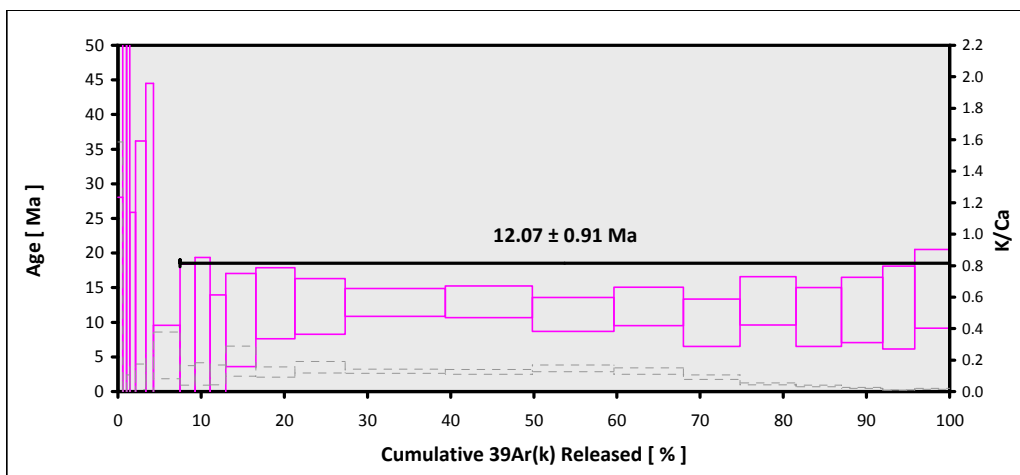


**EXP#17D02168 > RR1310-D21-04 > Clinopyroxene > KOPPERS (16-PIL-05)
 TUALU > NUKULAEAE ATOLL
 16-OSU-10 (10B12-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Sample = **RR1310-D21-04**
 Material = **Clinopyroxene**
 Location = **Nukulaelae Atoll**
 Region = **Tualu**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B12-16)**
 Position = **X: 0 | Y: 0 | Z/H: 17.38993 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.78159 ± 0.00532**
 FCT-NM J-value = **0.00271852 ± 0.00000250**
 Air Shot 40Ar/36Ar = **305.1860 ± 0.3601**
 Air Shot MDF = **0.99205524 ± 0.00064170 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Inverse Isochron**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		2.46357 ± 0.18678 ± 7.58%	12.07 ± 0.91 ± 7.56%	0.68 81%	92.54 16	0.0191 ± 0.0110
			Full External Error ± 0.95 Analytical Error ± 0.91	1.73 1.0000	2σ Confidence Limit Error Magnification	
Total Fusion Age		2.20405 ± 0.24766 ± 11.24%	10.80 ± 1.21 ± 11.20%		23	0.0562 ± 0.0022
			Full External Error ± 1.23 Analytical Error ± 1.21			
Normal Isochron	287.33 ± 8.15 ± 2.84%	2.65333 ± 0.27081 ± 10.21%	13.00 ± 1.32 ± 10.17%	0.42 97%	92.54 16	
			Full External Error ± 1.35 Analytical Error ± 1.32	1.76 1.0000	2σ Confidence Limit Error Magnification	
Inverse Isochron	287.30 ± 8.14 ± 2.83%	2.67277 ± 0.26827 ± 10.04%	13.09 ± 1.31 ± 10.00%	0.41 97%	92.54 16	
			Full External Error ± 1.34 Analytical Error ± 1.31	1.76 1.0000	2σ Confidence Limit Error Magnification	
				43%	Spreading Factor	

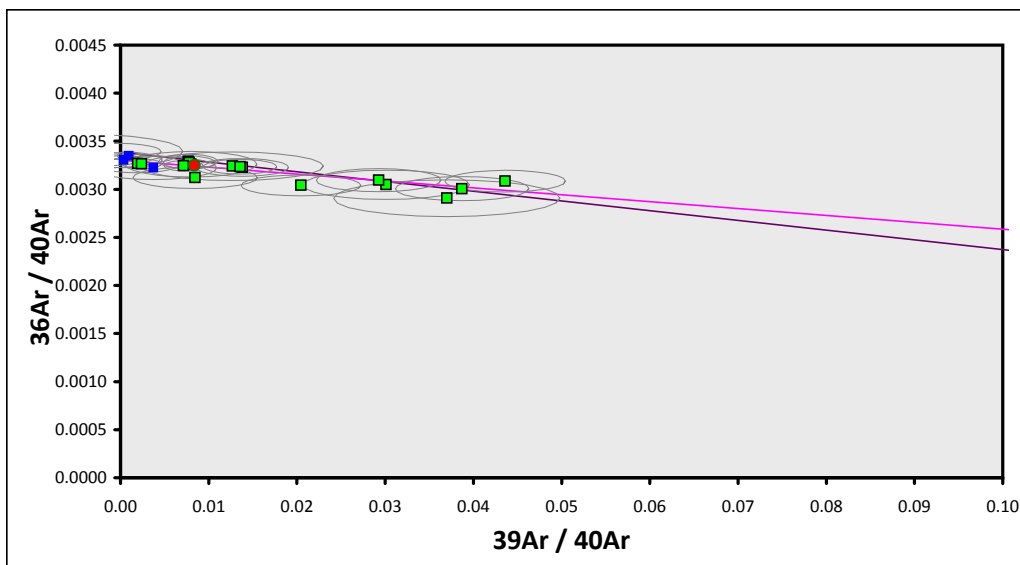
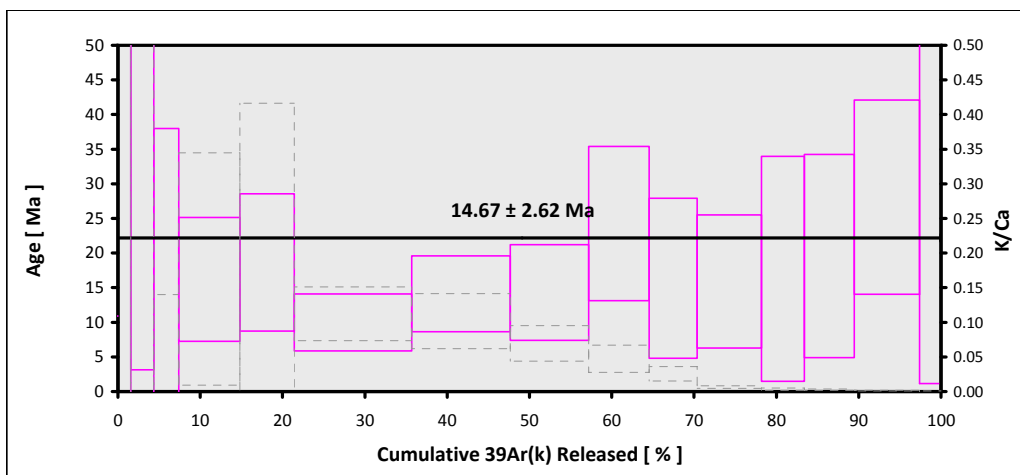


**EXP#17D03523 > RR1310-D21-04 > Clinopyroxene > KOPPERS (16-PIL-05)
 TUALU > NUKULAEAE ATOLL
 16-OSU-10 (10B11-16) > Incremental Heating > Dan Miggins**

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

Project = KOPPERS (16-PIL-05)
 Sample = RR1310-D21-04
 Material = Clinopyroxene
 Location = Nukulaeae Atoll
 Region = Tuvalu
 Analyst = Dan Miggins
 Irradiation = 16-OSU-10 (10B11-16)
 Position = X: 0 | Y: 0 | Z/H: 15.58631 mm
 FCT-NM Age = 28.201 ± 0.023 Ma
 FCT-NM Reference = Kuiper et al (2008)
 FCT-NM 40Ar/39Ar Ratio = 5.76905 ± 0.00531
 FCT-NM J-value = 0.00272443 ± 0.00000251
 Air Shot 40Ar/36Ar = 305.5670 ± 0.3881
 Air Shot MDF = 0.99175303 ± 0.00065090 (LIN)
 Experiment Type = Incremental Heating
 Extraction Method = Bulk Laser Heating
 Heating = 77 sec
 Isolation = 2.12 min
 Instrument = ARGUS-VI-D
 Preferred Age = Inverse Isochron
 Age Classification = Crystallization Age
 IGSN = xxxxxxxx
 Rock Class = Undefined
 Lithology = Basalt
 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(εC,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) = 0.0006756 ± 0.0000089
 Production 38/37(ca) = 0.0000718 ± 0.0000092
 Production 36/37(ca) = 0.0002663 ± 0.0000004
 Production 40/39(k) = 0.003823 ± 0.000102
 Production 38/39(k) = 0.012031 ± 0.000019
 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		2.98909 ± 0.53681 ± 17.96%	14.67 ± 2.62 ± 17.89%	1.24 23%	101.82 16	0.0014 ± 0.0011
			Full External Error ± 2.64 Analytical Error ± 2.62	1.73 1.1128	2σ Confidence Limit Error Magnification	
Total Fusion Age		4.76711 ± 0.83713 ± 17.56%	23.33 ± 4.07 ± 17.45%		23	0.0062 ± 0.0007
			Full External Error ± 4.11 Analytical Error ± 4.07			
Normal Isochron	302.99 ± 3.26 ± 1.08%	2.12410 ± 0.66849 ± 31.47%	10.43 ± 3.27 ± 31.38%	1.07 38%	101.82 16	
			Full External Error ± 3.28 Analytical Error ± 3.27	1.76 1.0335	2σ Confidence Limit Error Magnification	
Inverse Isochron	302.98 ± 3.31 ± 1.09%	2.17028 ± 0.60770 ± 28.00%	10.66 ± 2.98 ± 27.92%	1.10 36%	101.82 16	
			Full External Error ± 2.99 Analytical Error ± 2.98	1.76 1.0466	2σ Confidence Limit Error Magnification	9% Spreading Factor

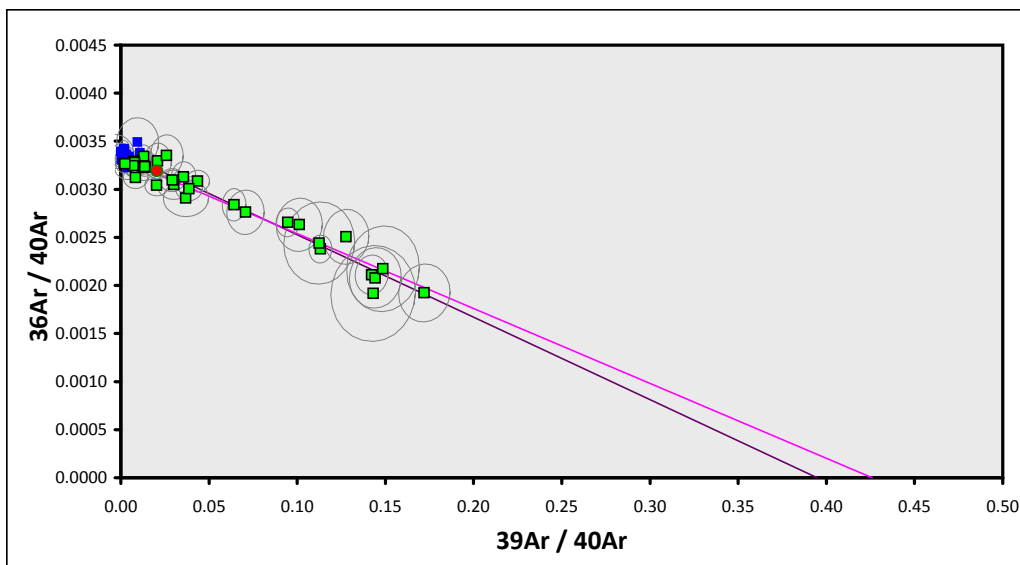
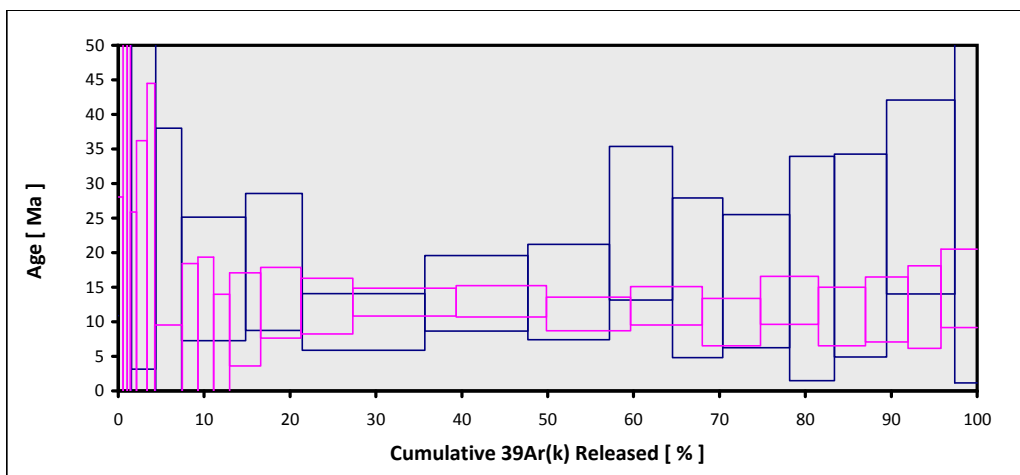


**STACK > RR1310-D21-04 CPX (N=2) > Clinopyroxene > KOPPERS (16-PIL-05)
 TUALU > NUKULAEAE ATOLL
 16-OSU-10 (10B12-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Stack = **RR1310-D21-04 CPX (N=2)**
 Material = **Clinopyroxene**
 Location = **Nukulaelae Atoll**
 Region = **Tualu**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B12-16)**
 Position = **X: 0 | Y: 0 | Z/H: 17.38993 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.78159 ± 0.00532**
 FCT-NM J-value = **0.00271852 ± 0.00000250**
 Air Shot 40Ar/36Ar = **305.1860 ± 0.3601**
 Air Shot MDF = **0.99205524 ± 0.00064170 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 Lat-Lon = **Undefined - Undefined**
 Age Equations = **Min et al. (2000)**
 Negative Intensities = **Allowed**
 Collector Calibrations = **40Ar 39Ar 38Ar 37Ar 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		2.53267 ± 0.17967 ± 7.09%	12.41 ± 0.88 ± 7.07%	1.06 37%	94.60 32	0.0025 ± 0.0025
			Full External Error ± 0.92 Analytical Error ± 0.88	1.51 1.0312	2σ Confidence Limit Error Magnification	
Total Fusion Age		2.77765 ± 0.25407 ± 9.15%	13.60 ± 1.24 ± 9.11%		46	0.0200 ± 0.0007
			Full External Error ± 1.28 Analytical Error ± 1.24			
Normal Isochron	301.24 ± 2.54 ± 0.84%	2.31943 ± 0.21651 ± 9.33%	11.37 ± 1.06 ± 9.31%	1.13 29%	94.60 32	
			Full External Error ± 1.09 Analytical Error ± 1.06	1.52 1.0624	2σ Confidence Limit Error Magnification	
Inverse Isochron	301.38 ± 2.52 ± 0.84%	2.34751 ± 0.20769 ± 8.85%	11.50 ± 1.01 ± 8.82%	1.12 30%	94.60 32	
			Full External Error ± 1.05 Analytical Error ± 1.01	1.0566 40%	2σ Confidence Limit Error Magnification Spreading Factor	

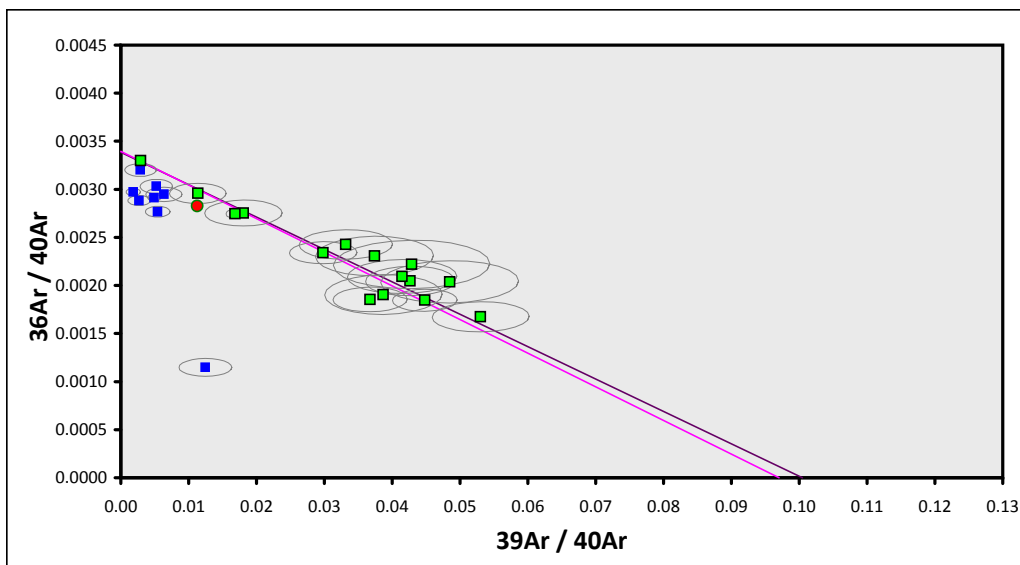
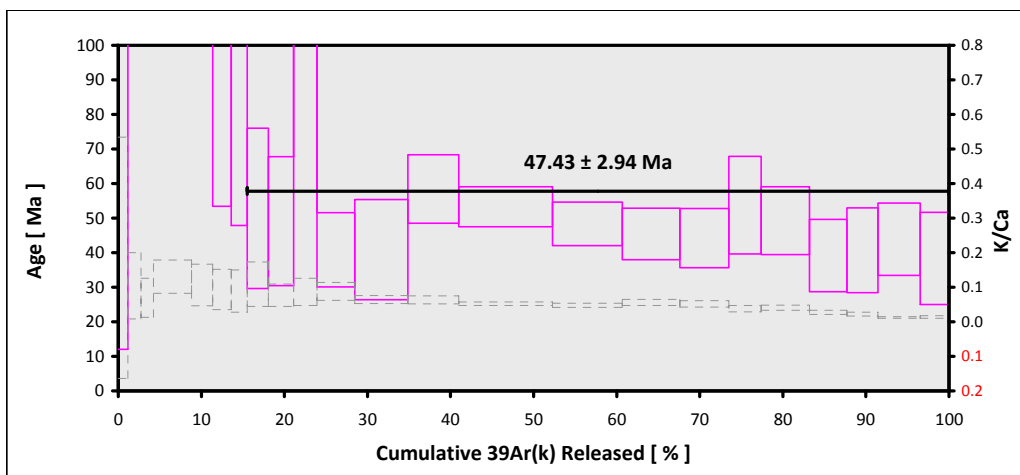


**EXP#17D01952 > RR1310-D13-01 > Clinopyroxene > KOPPERS (16-PIL-05)
 TUALU > TAYASA SEAMOUNT
 16-OSU-10 (10B21-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Sample = **RR1310-D13-01**
 Material = **Clinopyroxene**
 Location = **Tayasa Seamount**
 Region = **Tualu**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B21-16)**
 Position = **X: 0 | Y: 0 | Z/H: 31.06885 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.88553 ± 0.00530**
 FCT-NM J-value = **0.00267051 ± 0.00000240**
 Air Shot 40Ar/36Ar = **305.0400 ± 0.3691**
 Air Shot MDF = **0.99217125 ± 0.00064528 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		9.95210 ± 0.62556 ± 6.29%	47.43 ± 2.94 ± 6.21% Full External Error ± 3.13 Analytical Error ± 2.94	1.39 15% 1.76 1.1810	81.67 15 2σ Confidence Limit Error Magnification	0.0265 ± 0.0095
Total Fusion Age		14.64554 ± 0.75304 ± 5.14%	69.38 ± 3.50 ± 5.05% Full External Error ± 3.83 Analytical Error ± 3.50		23	0.0424 ± 0.0021
Normal Isochron	294.76 ± 3.53 ± 1.20%	10.21867 ± 0.75491 ± 7.39%	48.69 ± 3.55 ± 7.29% Full External Error ± 3.71 Analytical Error ± 3.55	1.47 12% 1.78 1.2141	81.67 15 2σ Confidence Limit Error Magnification	
Inverse Isochron	294.65 ± 3.53 ± 1.20%	10.30692 ± 0.76199 ± 7.39%	49.10 ± 3.58 ± 7.30% Full External Error ± 3.75 Analytical Error ± 3.58	1.47 12% 1.78 1.2106	81.67 15 2σ Confidence Limit Error Magnification 52% Spreading Factor	



**EXP#17D03796 > RR1310-D13-01 > Clinopyroxene > KOPPERS (16-PIL-05)
 TUVALU > TAYASA SEAMOUNT
 16-OSU-10 (10B20-16) > Incremental Heating > Dan Miggins**

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

Project = KOPPERS (16-PIL-05)
 Sample = RR1310-D13-01
 Material = Clinopyroxene
 Location = Tayasa Seamount
 Region = Tuvalu
 Analyst = Dan Miggins
 Irradiation = 16-OSU-10 (10B20-16)
 Position = X: 0 | Y: 0 | Z/H: 29.55152 mm
 FCT-NM Age = 28.201 ± 0.023 Ma
 FCT-NM Reference = Kuiper et al (2008)
 FCT-NM 40Ar/39Ar Ratio = 5.87109 ± 0.00528
 FCT-NM J-value = 0.00267708 ± 0.00000241
 Air Shot 40Ar/36Ar = 305.6470 ± 0.4004
 Air Shot MDF = 0.99168967 ± 0.00065536 (LIN)
 Experiment Type = Incremental Heating
 Extraction Method = Bulk Laser Heating
 Heating = 77 sec
 Isolation = 3.00 min
 Instrument = ARGUS-VI-D
 Preferred Age = Plateau Age
 Age Classification = Crystallization Age
 IGSN = xxxxxxxxx
 Rock Class = Undefined
 Lithology = Basalt
 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
 Atmospheric 38/36(a) = 0.1869
 Production 39/37(ca) = 0.0006756 ± 0.0000089
 Production 38/37(ca) = 0.0000718 ± 0.0000092
 Production 36/37(ca) = 0.0002663 ± 0.0000004
 Production 40/39(k) = 0.003823 ± 0.000102
 Production 38/39(k) = 0.012031 ± 0.000019
 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
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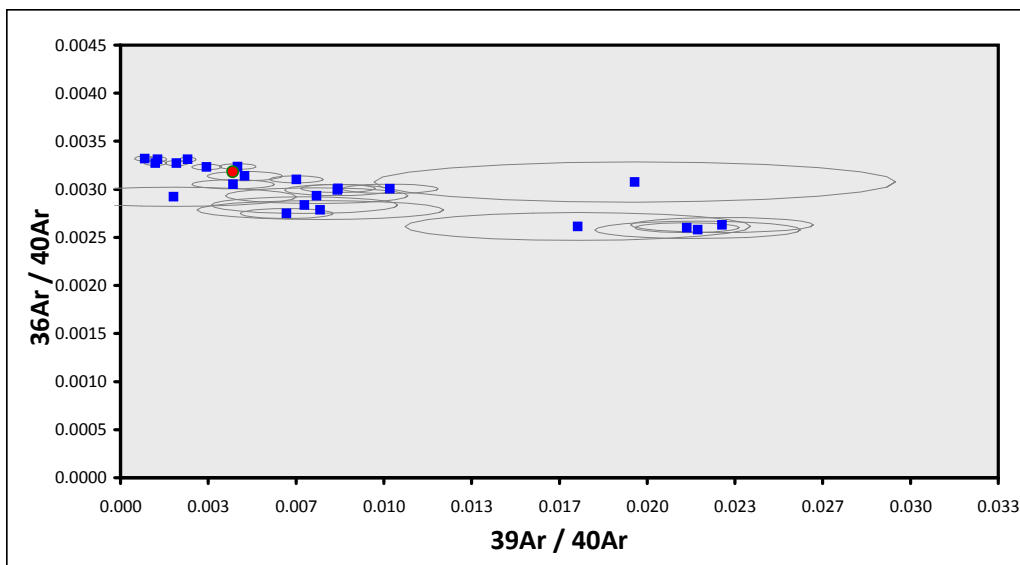
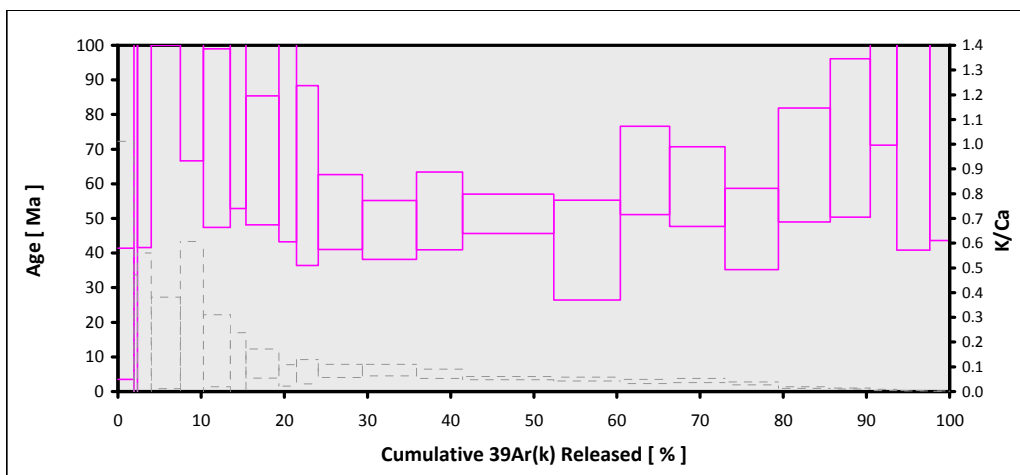
Age Plateau
 Cannot Calculate

Total Fusion Age	14.06324 ± 0.88724 ± 6.31%	66.83 ± 4.14 ± 6.20%	23	0.0193 ± 0.0010
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Full External Error ± 4.40
 Analytical Error ± 4.14

Normal Isochron
 Cannot Calculate

Inverse Isochron
 Cannot Calculate



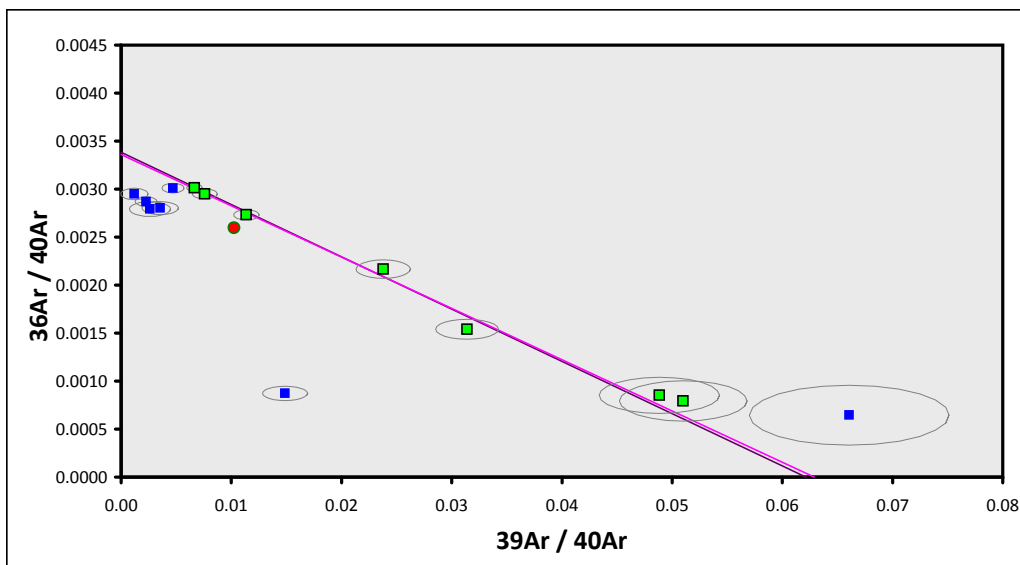
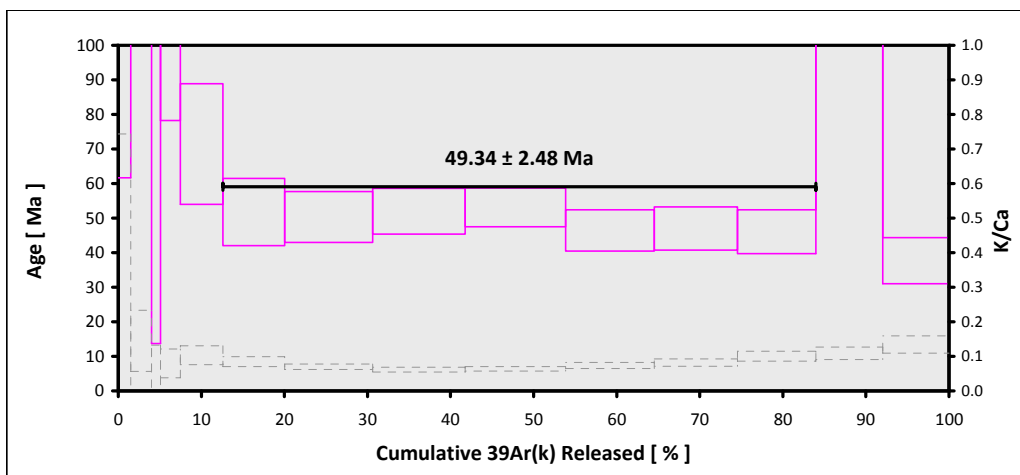
**EXP#14D34802 > RR1310-D07-09 > Clinopyroxene > RURUTU (13-INT-08)
 TUVALU > RURUTU HOTSPOT
 14-OSU-06 (6A34-14) > Incremental Heating > Kevin Konrad**

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

Project = **RURUTU (13-INT-08)**
 Sample = **RR1310-D07-09**
 Material = **Clinopyroxene**
 Location = **Rurutu Hotspot**
 Region = **Tuvalu**
 Analyst = **Kevin Konrad**
 Irradiation = **14-OSU-06 (6A34-14)**
 Position = **X: 0 | Y: 0 | Z/H: 53.24 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **9.14509 ± 0.00969**
 FCT-NM J-value = **0.00171867 ± 0.00000182**
 Air Shot 40Ar/36Ar = **303.3230 ± 0.5035**
 Air Shot MDF = **0.99354392 ± 0.00070564 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **6.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Eruption Age**
 IGSN = **Undefined**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 Lat-Lon = **Undefined - Undefined**
 Age Equations = **Min et al. (2000)**
 Negative Intensities = **Allowed**
 Collector Calibrations = **40Ar 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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**

This clinopyroxene separate had an atmospheric intercept and fairly long (albite large error) plateau. The ages is within error of the plagioclase separate from this lava flow and is deemed reliable.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (Ma)	MSWD	39Ar(k) (%n)	K/Ca ± 2σ
Age Plateau		16.09541 ± 0.82024 ± 5.10%	49.34 ± 2.48 ± 5.03% Full External Error ± 2.72 Analytical Error ± 2.48	0.90 50% 2.15 1.0000	71.38 7 2σ Confidence Limit Error Magnification	0.070 ± 0.008
Total Fusion Age		22.73336 ± 1.06934 ± 4.70%	69.31 ± 3.20 ± 4.62% Full External Error ± 3.56 Analytical Error ± 3.20		14	0.082 ± 0.004
Normal Isochron	297.88 ± 5.25 ± 1.76%	15.79476 ± 1.10209 ± 6.98%	48.43 ± 3.34 ± 6.89% Full External Error ± 3.51 Analytical Error ± 3.33	0.94 45% 2.26 1.0000	71.38 7 2σ Confidence Limit Error Magnification	
Inverse Isochron	297.61 ± 5.30 ± 1.78%	15.89766 ± 1.12239 ± 7.06%	48.75 ± 3.40 ± 6.97% Full External Error ± 3.57 Analytical Error ± 3.40	0.95 45% 2.26 1.0000	71.38 7 2σ Confidence Limit Error Magnification 70% Spreading Factor	

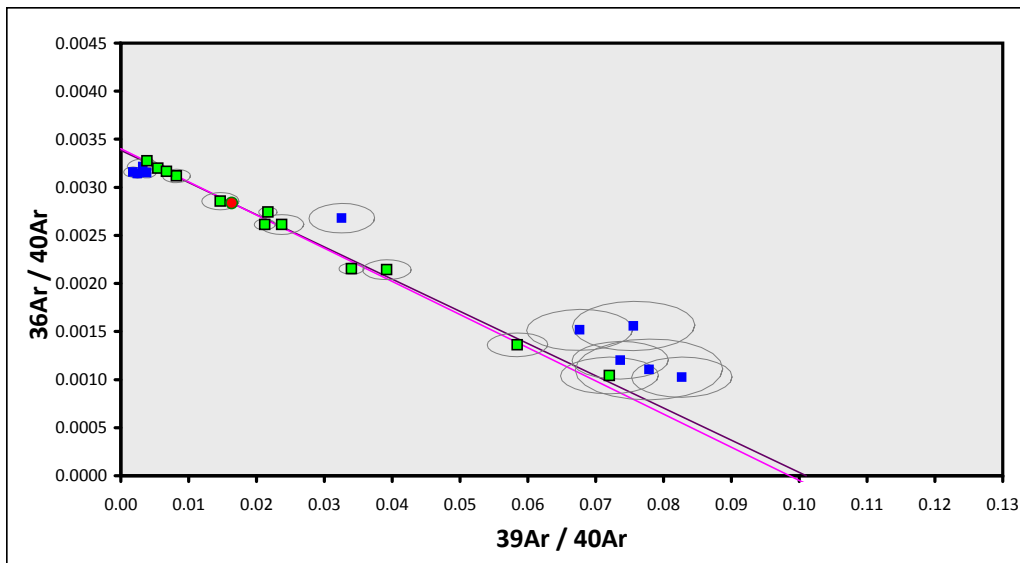
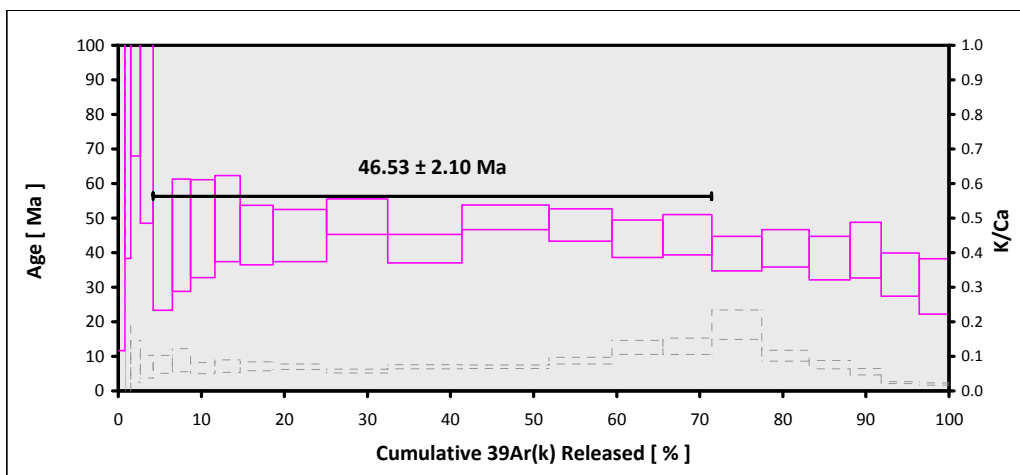


**EXP#17D02315 > RR1310-D07-09 > Clinopyroxene > KOPPERS (16-PIL-05)
 TUVALU SEAMOUNTS > TEFOLAHA
 16-OSU-10 (10B26-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Sample = **RR1310-D07-09**
 Material = **Clinopyroxene**
 Location = **Tefolaha**
 Region = **Tuvalu Seamounts**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B26-16)**
 Position = **X: 0 | Y: 0 | Z/H: 38.58681 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.96756 ± 0.00531**
 FCT-NM J-value = **0.00263381 ± 0.00000234**
 Air Shot 40Ar/36Ar = **305.0230 ± 0.3752**
 Air Shot MDF = **0.99218476 ± 0.00064754 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		9.89713 ± 0.45231 ± 4.57%	46.53 ± 2.10 ± 4.52%	1.48	67.24	0.070 ± 0.007
			Full External Error ± 2.35 Analytical Error ± 2.10	1.85	2σ Confidence Limit	
				1.2163	Error Magnification	
Total Fusion Age		9.89924 ± 0.37116 ± 3.75%	46.54 ± 1.72 ± 3.71%		22	0.067 ± 0.002
			Full External Error ± 2.02 Analytical Error ± 1.72			
Normal Isochron	294.07 ± 3.29 ± 1.12%	10.10857 ± 0.59098 ± 5.85%	47.51 ± 2.74 ± 5.77%	1.49	67.24	
			Full External Error ± 2.94 Analytical Error ± 2.74	1.89	2σ Confidence Limit	
				1.2188	Error Magnification	
Inverse Isochron	294.02 ± 3.28 ± 1.12%	10.14525 ± 0.58941 ± 5.81%	47.69 ± 2.74 ± 5.74%	1.47	67.24	
			Full External Error ± 2.94 Analytical Error ± 2.73	1.89	2σ Confidence Limit	
				1.2110	Error Magnification	
				69%	Spreading Factor	

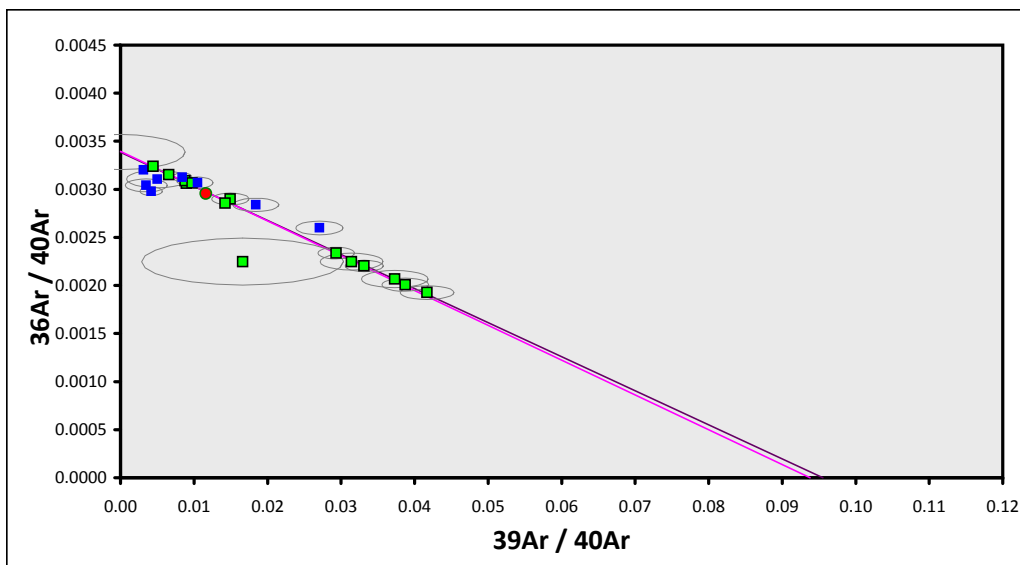
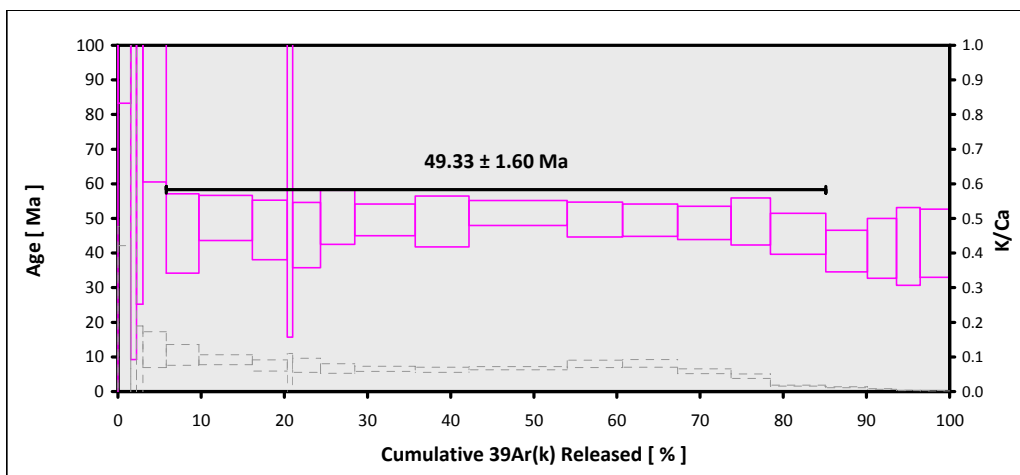


**EXP#17D03641 > RR1310-D07-09 > Clinopyroxene > KOPPERS (16-PIL-05)
 TUVALU > TEFOLAHA
 16-OSU-10 (10B25-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Sample = **RR1310-D07-09**
 Material = **Clinopyroxene**
 Location = **Tefolaha**
 Region = **Tuvalu**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B25-16)**
 Position = **X: 0 | Y: 0 | Z/H: 37.09938 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.94990 ± 0.00530**
 FCT-NM J-value = **0.00264162 ± 0.00000235**
 Air Shot 40Ar/36Ar = **305.5890 ± 0.3942**
 Air Shot MDF = **0.99173560 ± 0.00065315 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		10.46792 ± 0.34271 ± 3.27%	49.33 ± 1.60 ± 3.23% Full External Error ± 1.94 Analytical Error ± 1.59	0.48 94% 1.78 1.0000	79.29 14 2σ Confidence Limit Error Magnification	0.0307 ± 0.0124
Total Fusion Age		10.87824 ± 0.38606 ± 3.55%	51.23 ± 1.79 ± 3.50% Full External Error ± 2.13 Analytical Error ± 1.79		23	0.0221 ± 0.0006
Normal Isochron	294.60 ± 2.37 ± 0.80%	10.65183 ± 0.52905 ± 4.97%	50.18 ± 2.46 ± 4.90% Full External Error ± 2.70 Analytical Error ± 2.46	0.65 80% 1.82 1.0000	79.29 14 2σ Confidence Limit Error Magnification	
Inverse Isochron	294.58 ± 2.37 ± 0.80%	10.66004 ± 0.53029 ± 4.97%	50.22 ± 2.47 ± 4.91% Full External Error ± 2.71 Analytical Error ± 2.46	0.68 77% 1.82 1.0000	79.29 14 2σ Confidence Limit Error Magnification	40% Spreading Factor

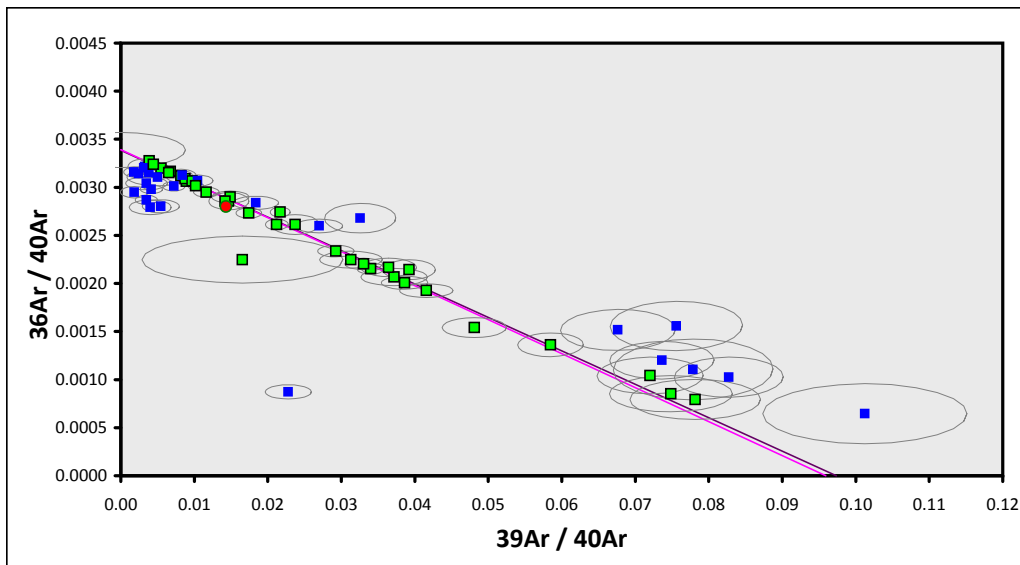
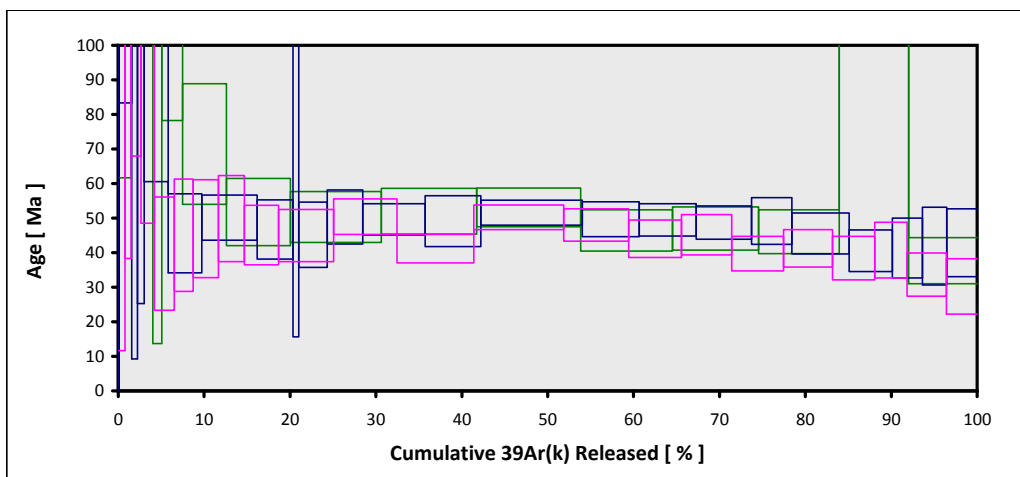


**STACK > RR1310-D07-09 CPX (N=2) > Clinopyroxene > KOPPERS (16-PIL-05)
 TUVALU SEAMOUNTS > TEFOLAHA
 16-OSU-10 (10B26-16) > Incremental Heating > Dan Miggins**

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

Project = **KOPPERS (16-PIL-05)**
 Stack = **RR1310-D07-09 CPX (N=2)**
 Material = **Clinopyroxene**
 Location = **Tefolaha**
 Region = **Tuvalu Seamounts**
 Analyst = **Dan Miggins**
 Irradiation = **16-OSU-10 (10B26-16)**
 Position = **X: 0 | Y: 0 | Z/H: 38.58681 mm**
 FCT-NM Age = **28.201 ± 0.023 Ma**
 FCT-NM Reference = **Kuiper et al (2008)**
 FCT-NM 40Ar/39Ar Ratio = **5.96756 ± 0.00531**
 FCT-NM J-value = **0.00263381 ± 0.00000234**
 Air Shot 40Ar/36Ar = **305.0230 ± 0.3752**
 Air Shot MDF = **0.99218476 ± 0.00064754 (LIN)**
 Experiment Type = **Incremental Heating**
 Extraction Method = **Bulk Laser Heating**
 Heating = **77 sec**
 Isolation = **3.00 min**
 Instrument = **ARGUS-VI-D**
 Preferred Age = **Plateau Age**
 Age Classification = **Crystallization Age**
 IGSN = **xxxxxxxx**
 Rock Class = **Undefined**
 Lithology = **Basalt**
 Lat-Lon = **Undefined - Undefined**
 Age Equations = **Min et al. (2000)**
 Negative Intensities = **Allowed**
 Collector Calibrations = **40Ar 39Ar 38Ar 37Ar 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**
 Atmospheric 38/36(a) = **0.1869**
 Production 39/37(ca) = **0.0006756 ± 0.0000089**
 Production 38/37(ca) = **0.0000718 ± 0.0000092**
 Production 36/37(ca) = **0.0002663 ± 0.0000004**
 Production 40/39(k) = **0.003823 ± 0.000102**
 Production 38/39(k) = **0.012031 ± 0.000019**
 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		10.27287 ± 0.23698 ± 2.31%	48.28 ± 1.10 ± 2.28%	1.08	72.48	0.0426 ± 0.0094
			Full External Error ± 1.54	35%	33	
			Analytical Error ± 1.10	1.50	2σ Confidence Limit	
				1.0380	Error Magnification	
Total Fusion Age		12.09168 ± 0.29211 ± 2.42%	56.69 ± 1.35 ± 2.38%		59	0.0432 ± 0.0009
			Full External Error ± 1.85			
			Analytical Error ± 1.35			
Normal Isochron	294.98 ± 1.76 ± 0.60%	10.38724 ± 0.33992 ± 3.27%	48.81 ± 1.58 ± 3.23%	1.15	72.48	
			Full External Error ± 1.92	26%	33	
			Analytical Error ± 1.58	1.51	2σ Confidence Limit	
				1.0718	Error Magnification	
Inverse Isochron	294.89 ± 1.76 ± 0.60%	10.42559 ± 0.34161 ± 3.28%	48.99 ± 1.59 ± 3.24%	1.14	72.48	
			Full External Error ± 1.93	27%	33	
			Analytical Error ± 1.58	1.51	2σ Confidence Limit	
				1.0666	Error Magnification	
				77%	Spreading Factor	

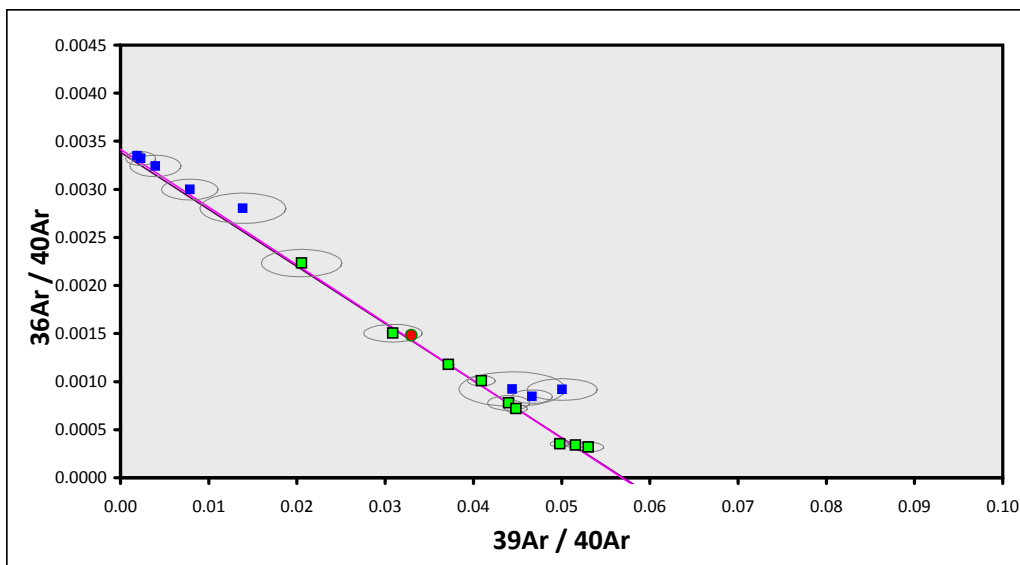
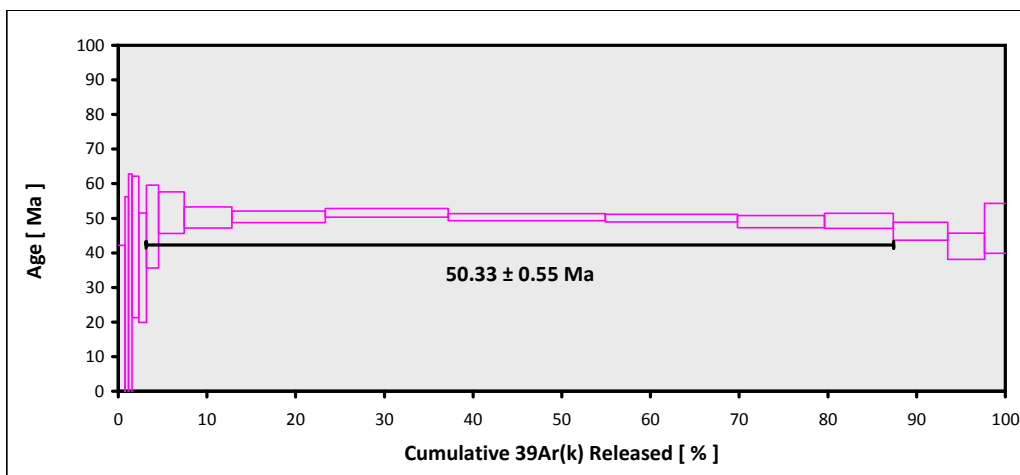


EXP#18E00945 > 352-U1439C-02R-3-W 29-32 > Clinopyroxene > IODP 352 (14-INT-03)
IBM FOREARC > 352-U1439C
17-OSU-09 (9F29-17) > Incremental Heating > Daniel Heaton

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

Project = IODP 352 (14-INT-03)
 Sample = 352-U1439C-02R-3-W 29-32
 Material = Clinopyroxene
 Location = 352-U1439C
 Region = IBM Forearc
 Analyst = Daniel Heaton
 Irradiation = 17-OSU-09 (9F29-17)
 Position = X: 0 | Y: 0 | Z/H: 32.41507 mm
 FCT-NM Age = 28.201 ± 0.023 Ma
 FCT-NM Reference = Kuiper et al (2008)
 FCT-NM 40Ar/39Ar Ratio = 9.76661 ± 0.00762
 FCT-NM J-value = 0.00160930 ± 0.00000126
 Air Shot 40Ar/36Ar = 305.6480 ± 0.3026
 Air Shot MDF = 0.99168887 ± 0.00062160 (LIN)
 Experiment Type = Incremental Heating
 Extraction Method = Bulk Laser Heating
 Heating = 66 sec
 Isolation = 2.10 min
 Instrument = ARGUS-VI-E
 Preferred Age = Plateau Age
 Age Classification = Eruption Age
 IGSN = Undefined
 Rock Class = Igneous>Volcanic>Mafic
 Lithology = Basalt
 Lat-Lon = 28°24.4'N - 142°36.5'E
 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		17.53674 ± 0.19133 ± 1.09%	50.33 ± 0.55 ± 1.09%	1.00 43%	84.23 9	0.097 ± 0.019
			Full External Error ± 1.25 Analytical Error ± 0.54	2.00 1.0000	2σ Confidence Limit Error Magnification	
Total Fusion Age		17.05485 ± 0.25594 ± 1.50%	48.96 ± 0.73 ± 1.49%		17	0.063 ± 0.001
			Full External Error ± 1.32 Analytical Error ± 0.72			
Normal Isochron	294.14 ± 16.94 ± 5.76%	17.54719 ± 0.34539 ± 1.97%	50.36 ± 0.98 ± 1.95%	1.11 35%	84.23 9	
			Full External Error ± 1.50 Analytical Error ± 0.98	2.07 1.0542	2σ Confidence Limit Error Magnification	
Inverse Isochron	292.72 ± 17.03 ± 5.82%	17.59239 ± 0.34738 ± 1.97%	50.48 ± 0.99 ± 1.95%	1.13 34%	84.23 9	
			Full External Error ± 1.50 Analytical Error ± 0.98	2.07 1.0630	2σ Confidence Limit Error Magnification	57% Spreading Factor



EXP#18E00991 > 352-U1442A-15R-1-W 61-64 > Clinopyroxene > IODP 352 (14-INT-03)
IBM FOREARC > 352-U1442A
17-OSU-09 (9F35-17) > Incremental Heating > Daniel Heaton

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

Project = IODP 352 (14-INT-03)
 Sample = 352-U1442A-15R-1-W 61-64
 Material = Clinopyroxene
 Location = 352-U1442A
 Region = IBM Forearc
 Analyst = Daniel Heaton
 Irradiation = 17-OSU-09 (9F35-17)
 Position = X: 0 | Y: 0 | Z/H: 40.67764 mm
 FCT-NM Age = 28.201 ± 0.023 Ma
 FCT-NM Reference = Kuiper et al (2008)
 FCT-NM 40Ar/39Ar Ratio = 9.86741 ± 0.00760
 FCT-NM J-value = 0.00159286 ± 0.00000123
 Air Shot 40Ar/36Ar = 305.6690 ± 0.3026
 Air Shot MDF = 0.99167225 ± 0.00062156 (LIN)
 Experiment Type = Incremental Heating
 Extraction Method = Bulk Laser Heating
 Heating = 66 sec
 Isolation = 2.10 min
 Instrument = ARGUS-VI-E
 Preferred Age = Plateau Age
 Age Classification = Eruption Age
 IGSN = Undefined
 Rock Class = Igneous>Volcanic>Mafic
 Lithology = Basalt
 Lat-Lon = 28°24.6'N - 142°37.3'E
 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		17.96451 ± 0.13503 ± 0.75%	51.02 ± 0.39 ± 0.76%	0.55 80%	82.05 8	0.0806 ± 0.0035
			Full External Error ± 1.21 Analytical Error ± 0.38	2.07 1.0000	2σ Confidence Limit Error Magnification	
Total Fusion Age		17.52038 ± 0.17766 ± 1.01%	49.77 ± 0.50 ± 1.01%		15	0.0499 ± 0.0005
			Full External Error ± 1.22 Analytical Error ± 0.50			
Normal Isochron	294.84 ± 5.36 ± 1.82%	17.97577 ± 0.17350 ± 0.97%	51.05 ± 0.49 ± 0.96%	0.63 71%	82.05 8	
			Full External Error ± 1.25 Analytical Error ± 0.49	2.15 1.0000	2σ Confidence Limit Error Magnification	
Inverse Isochron	294.78 ± 5.36 ± 1.82%	17.98134 ± 0.17339 ± 0.96%	51.07 ± 0.49 ± 0.96%	0.64 70%	82.05 8	
			Full External Error ± 1.25 Analytical Error ± 0.49	2.15 1.0000	2σ Confidence Limit Error Magnification	51% Spreading Factor

