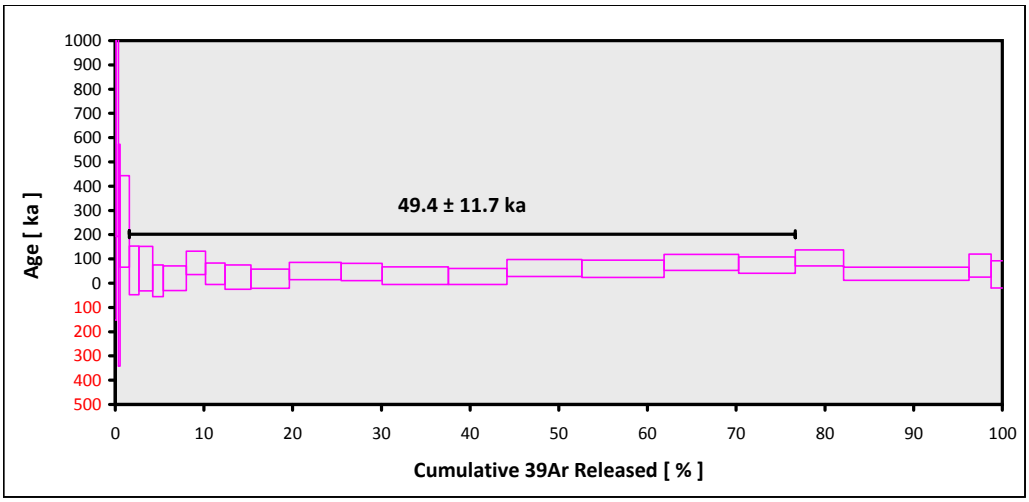
EXP#15D22727 > JM84-N-4 > Biotite > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B7-15) > Incremental Heating > Susan Schnur

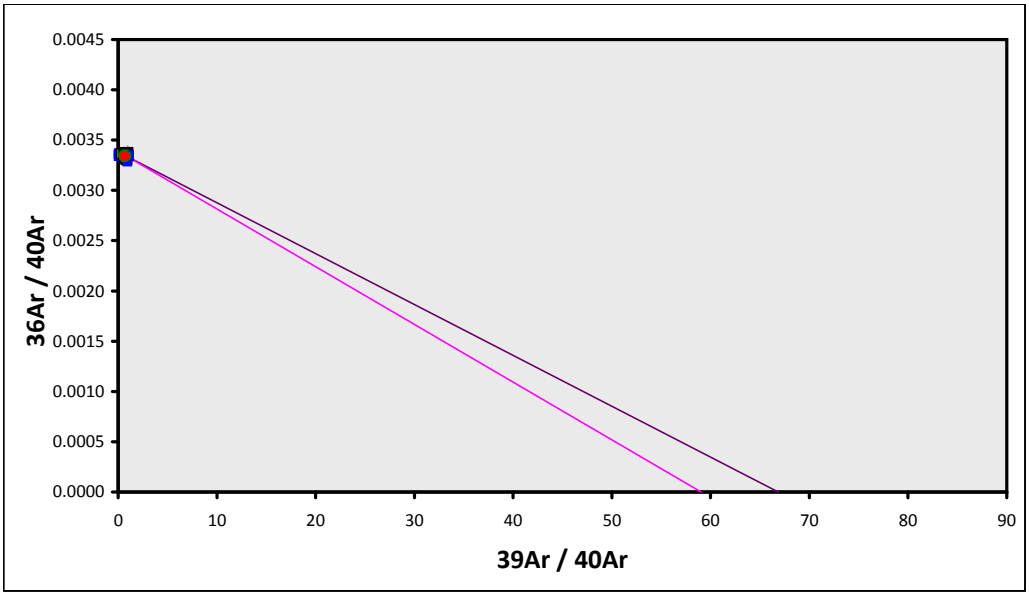
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-N-4**
Material = **Biotite**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B7-15)**
Position = **X: 0 | Y: 0 | Z/H: 11.21 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.61321 ± 0.01490**
FCT-NM J-value = **0.00182480 ± 0.00000316**
Air Shot 40Ar/36Ar = **303.4430 ± 0.6494**
Air Shot MDF = **0.99344748 ± 0.00077841 (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 = **IESRS0098**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Alkali Basalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Plateau is good but high error. Isochron not useful.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.01496 ± 0.00355	**49.4 ± 11.7**	1.30	75.09	7.0 ± 0.9
		± 23.71%	**± 23.71%**	19%	16	
		Full External Error	± 11.8	1.73	2σ Confidence Limit	
		Analytical Error	± 11.7	1.1394	Error Magnification	
Total Fusion Age		0.01756 ± 0.00292	**58.0 ± 9.6**		24	9.3 ± 0.4
		± 16.64%	**± 16.64%**			
		Full External Error	± 9.7			
		Analytical Error	± 9.6			
Normal Isochron	**295.08 ± 4.29**	0.01668 ± 0.01890	**55.0 ± 62.4**	1.38	75.09	
	± 1.45%	± 113.30%	**± 113.30%**	15%	16	
		Full External Error	± 62.4	1.76	2σ Confidence Limit	
		Analytical Error	± 62.4	1.1764	Error Magnification	
Inverse Isochron	**295.04 ± 4.29**	0.01694 ± 0.00809	**55.9 ± 26.7**	1.39	75.09	
Clustered Points	**± 1.45%**	± 47.73%	**± 47.73%**	15%	16	
		Full External Error	± 26.7	1.76	2σ Confidence Limit	
		Analytical Error	± 26.7	1.1774	Error Magnification	
				1%	Spreading Factor	





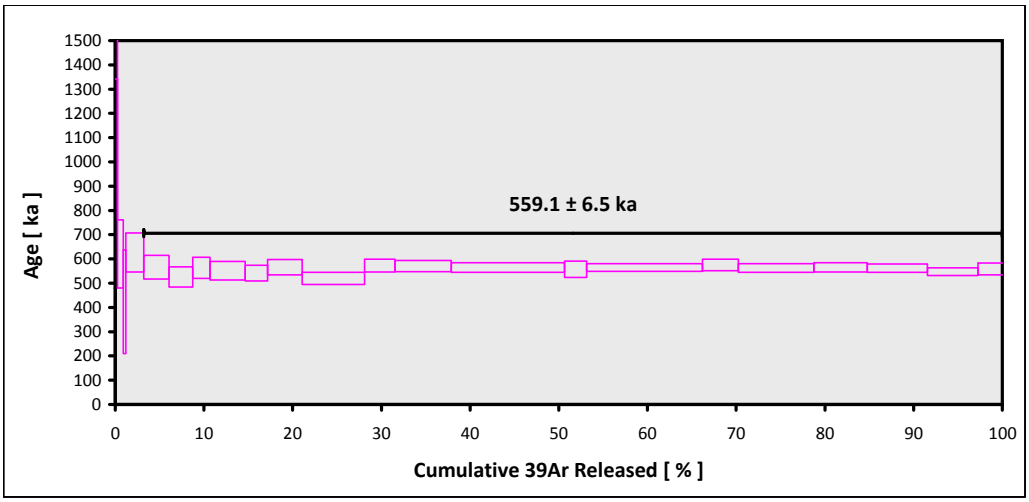
EXP#15D22758 > JM84-IN-11 > Biotite > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A14-15) > Incremental Heating > Susan Schnur

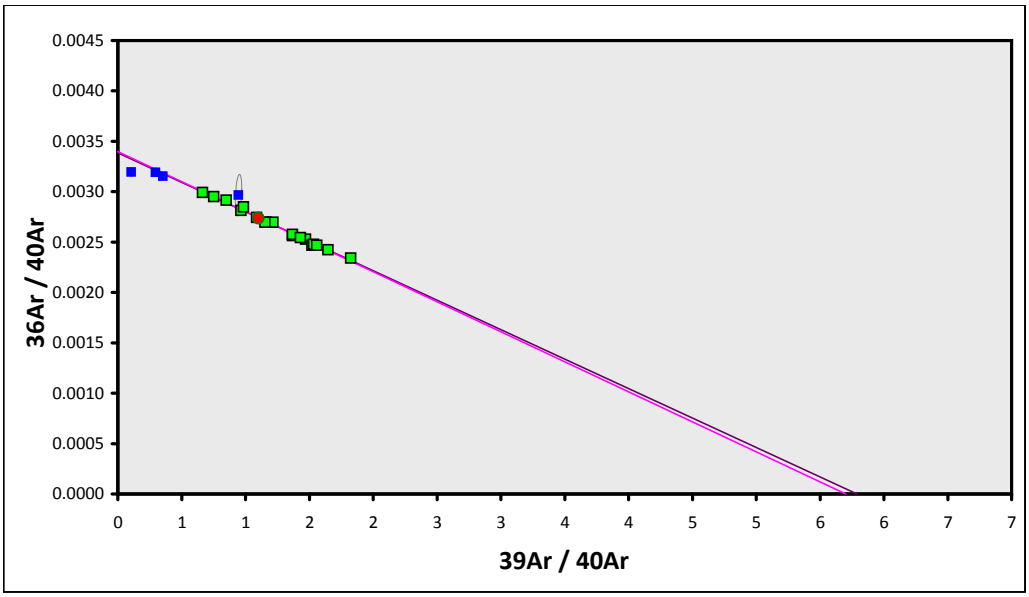
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-11**
Material = **Biotite**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1A14-15)**
Position = **X: 0 | Y: 0 | Z/H: 23.58 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.78053 ± 0.01598**
FCT-NM J-value = **0.00179003 ± 0.00000326**
Air Shot 40Ar/36Ar = **303.4570 ± 0.6555**
Air Shot MDF = **0.99343623 ± 0.00078165 (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 = **IESRS0099**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyte**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

One blip in the plateau, excluded from plateau. Otherwise good.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.17276 ± 0.00192	**559.1 ± 6.5**	1.28	96.78	19.5 ± 2.7
		± 1.11%	**± 1.17%**	19%	18	
		Full External Error	± 14.2	1.69	2σ Confidence Limit	
		Analytical Error	± 6.2	1.1323	Error Magnification	
Total Fusion Age		0.17392 ± 0.00190	**562.9 ± 6.5**		22	29.8 ± 3.8
		± 1.09%	**± 1.15%**			
		Full External Error	± 14.3			
		Analytical Error	± 6.1			
Normal Isochron	**294.14 ± 3.02**	0.17541 ± 0.00630	**567.7 ± 20.5**	1.31	96.78	
	± 1.03%	± 3.59%	**± 3.61%**	18%	18	
		Full External Error	± 24.2	1.71	2σ Confidence Limit	
		Analytical Error	± 20.4	1.1465	Error Magnification	
Inverse Isochron	**294.16 ± 3.00**	0.17542 ± 0.00625	**567.7 ± 20.3**	1.30	96.78	
	± 1.02%	± 3.56%	**± 3.58%**	19%	18	
		Full External Error	± 24.0	1.71	2σ Confidence Limit	
		Analytical Error	± 20.2	1.1393	Error Magnification	
				20%	Spreading Factor	





OSU Argon Geochronology Lab
CEOAS Oregon State University, Corvallis, USA

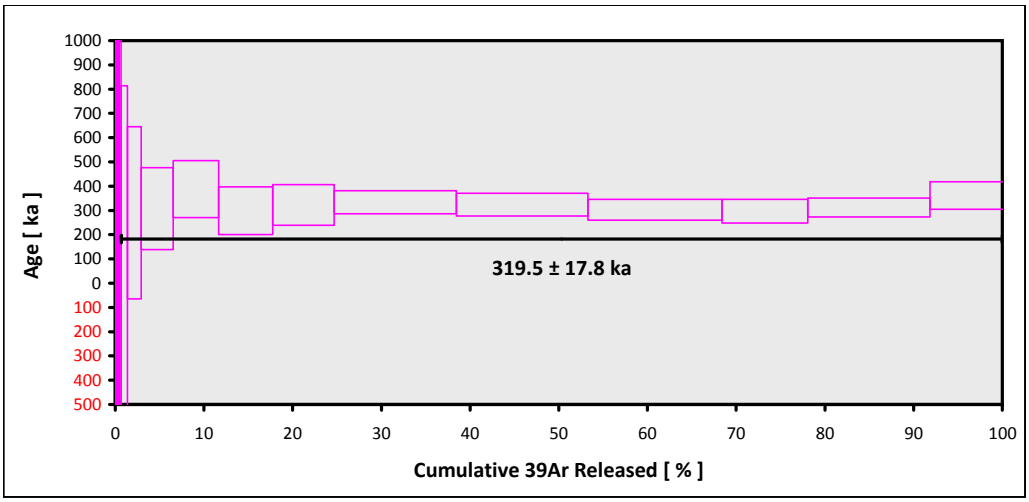
EXP#15D22786 > BM.1927,1252(58) > Hornblende > TRISTAN (13-INT-04C)
WALVIS RIDGE > MIDDLE ISLAND
15-OSU-01 (1B24-15) > Incremental Heating > Susan Schnur

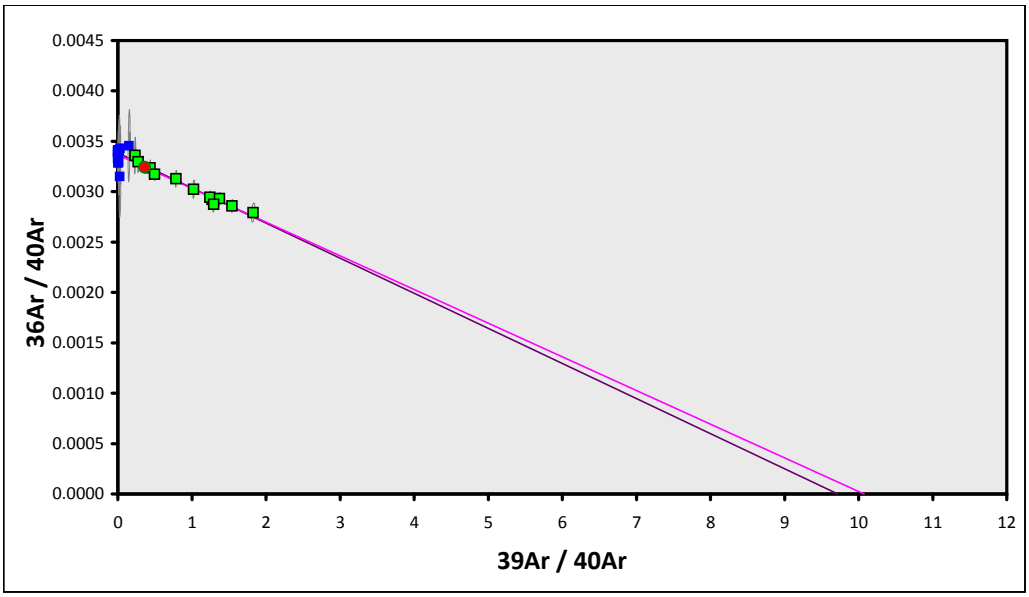
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1927,1252(58)**
Material = **Hornblende**
Location = **Middle Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B24-15)**
Position = **X: 0 | Y: 0 | Z/H: 40.16 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **9.15099 ± 0.01492**
FCT-NM J-value = **0.00171756 ± 0.00000280**
Air Shot 40Ar/36Ar = **303.4510 ± 0.6555**
Air Shot MDF = **0.99344105 ± 0.00078166 (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 = **IESRS0100**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Basalt**
Lat-Lon = **37°24.7'S - 12°28.6'W**
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**

Good plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.10288 ± 0.00571	**319.5 ± 17.8**	0.55	99.33	0.137 ± 0.001
		± 5.55%	**± 5.56%**	87%	12	
		Full External Error	± 19.2	1.85	2σ Confidence Limit	
		Analytical Error	± 17.7	1.0000	Error Magnification	
Total Fusion Age		0.11620 ± 0.01111	**360.9 ± 34.5**		32	0.137 ± 0.001
		± 9.56%	**± 9.56%**			
		Full External Error	± 35.5			
		Analytical Error	± 34.5			
Normal Isochron	**296.99 ± 5.18**	0.09926 ± 0.01341	**308.3 ± 41.7**	0.57	99.33	
	± 1.74%	± 13.51%	**± 13.51%**	84%	12	
		Full External Error	± 42.2	1.89	2σ Confidence Limit	
		Analytical Error	± 41.6	1.0000	Error Magnification	
Inverse Isochron	**297.05 ± 5.20**	0.09929 ± 0.01325	**308.4 ± 41.2**	0.58	99.33	
	± 1.75%	± 13.35%	**± 13.35%**	84%	12	
		Full External Error	± 41.8	1.89	2σ Confidence Limit	
		Analytical Error	± 41.2	1.0000	Error Magnification	
				16%	Spreading Factor	





OSU Argon Geochronology Lab
CEOAS Oregon State University, Corvallis, USA

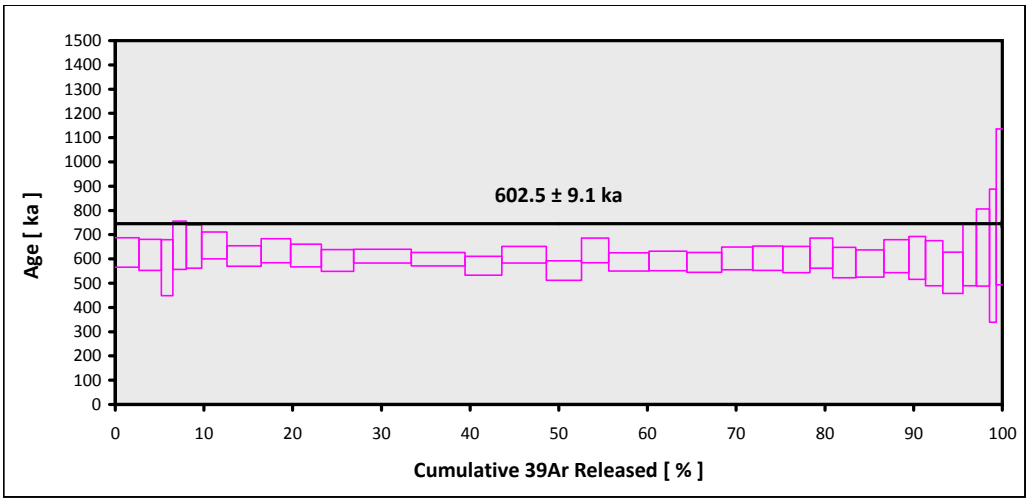
EXP#15D22850 > JM84-IN-2 > Groundmass > TRISTAN (13-INT-04C)
SE ATLANTIC OCEAN > INACCESSIBLE ISLAND
15-OSU-01 (1A4-15) > Incremental Heating > Susan Schnur

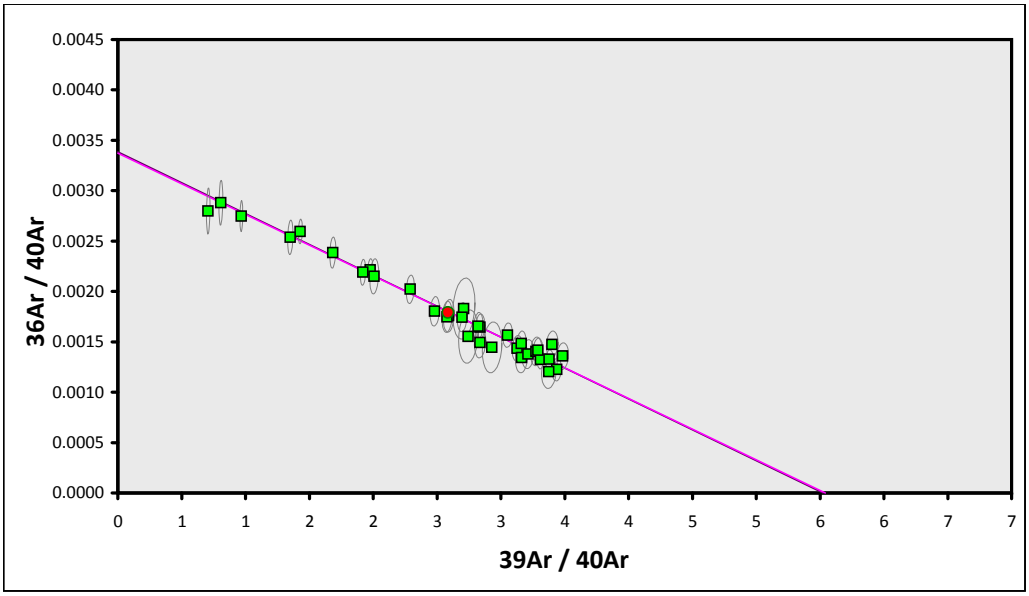
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-2**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **SE Atlantic Ocean**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1A4-15)**
Position = **X: 0 | Y: 0 | Z/H: 6.5 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.53832 ± 0.01597**
FCT-NM J-value = **0.00184081 ± 0.00000344**
Air Shot 40Ar/36Ar = **303.4650 ± 0.6555**
Air Shot MDF = **0.99342981 ± 0.00078163 (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 = **IESRS0101**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Alkali Basalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Good plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.18102 ± 0.00265 (± 1.47%)	**602.5 ± 9.1 (± 1.51%)**	0.89	100.00	0.017 ± 0.007
				64%	33	
		Full External Error ± 16.4		1.50	2σ Confidence Limit	
		Analytical Error ± 8.8		1.0000	Error Magnification	
Total Fusion Age		0.18179 ± 0.00299 (± 1.64%)	**605.0 ± 10.2 (± 1.69%)**		33	0.195 ± 0.001
		Full External Error ± 17.0				
		Analytical Error ± 9.9				
Normal Isochron	**296.84 ± 8.39 (± 2.83%)**	0.17940 ± 0.00533 (± 2.97%)	**597.1 ± 17.9 (± 2.99%)**	0.92	100.00	
				60%	33	
		Full External Error ± 22.4		1.51	2σ Confidence Limit	
		Analytical Error ± 17.7		1.0000	Error Magnification	
Inverse Isochron	**296.61 ± 8.40 (± 2.83%)**	0.18046 ± 0.00527 (± 2.92%)	**600.6 ± 17.7 (± 2.94%)**	0.92	100.00	
				60%	33	
		Full External Error ± 22.3		1.51	2σ Confidence Limit	
		Analytical Error ± 17.5		1.0000	Error Magnification	
				50%	Spreading Factor	





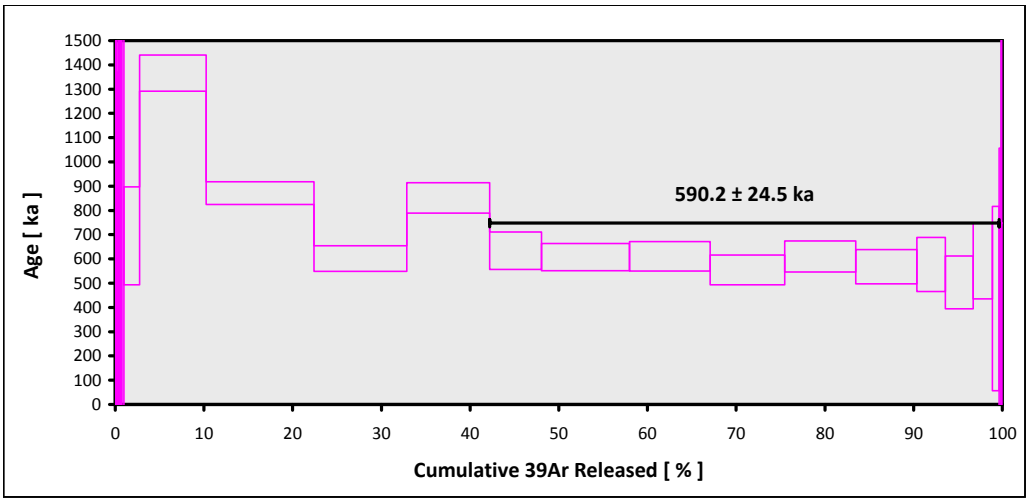
EXP#15D22896 > JM84-IN-1 > Hornblende > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A3-15) > Incremental Heating > Susan Schnur

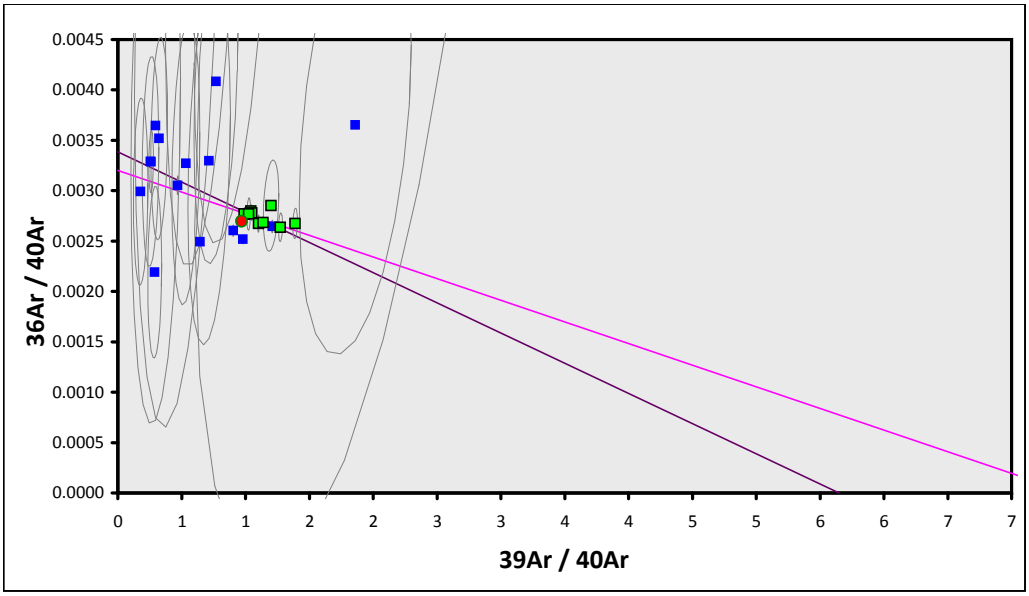
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-1**
Material = **Hornblende**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1A3-15)**
Position = **X: 0 | Y: 0 | Z/H: 5.16 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.52471 ± 0.01603**
FCT-NM J-value = **0.00184375 ± 0.00000347**
Air Shot 40Ar/36Ar = **303.4590 ± 0.6524**
Air Shot MDF = **0.99343463 ± 0.00078000 (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 = **IESRS0102**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyandesite**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Low-T steps are bumpy, high-T steps yield a decent plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.17704 ± 0.00731	**590.2 ± 24.5**	0.84	57.41	0.086 ± 0.001
		± 4.13%	**± 4.14%**	58%	10	
		Full External Error	± 27.8	1.94	2σ Confidence Limit	
		Analytical Error	± 24.4	1.0000	Error Magnification	
Total Fusion Age		0.20967 ± 0.00631	**698.9 ± 21.2**		29	0.087 ± 0.000
		± 3.01%	**± 3.03%**			
		Full External Error	± 26.4			
		Analytical Error	± 21.0			
Normal Isochron	**313.22 ± 31.09**	0.13138 ± 0.07986	**438.0 ± 266.2**	0.79	57.41	
	± 9.93%	± 60.79%	**± 60.78%**	61%	10	
		Full External Error	± 266.4	2.00	2σ Confidence Limit	
		Analytical Error	± 266.2	1.0000	Error Magnification	
Inverse Isochron	**312.27 ± 31.37**	0.13418 ± 0.06074	**447.3 ± 202.5**	0.78	57.41	
	± 10.05%	± 45.27%	**± 45.26%**	62%	10	
		Full External Error	± 202.7	2.00	2σ Confidence Limit	
		Analytical Error	± 202.5	1.0000	Error Magnification	
				5%	Spreading Factor	





EXP#15D22936 > BM.1927,1252(72) > Hornblende > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B11-15) > Incremental Heating > Susan Schnur

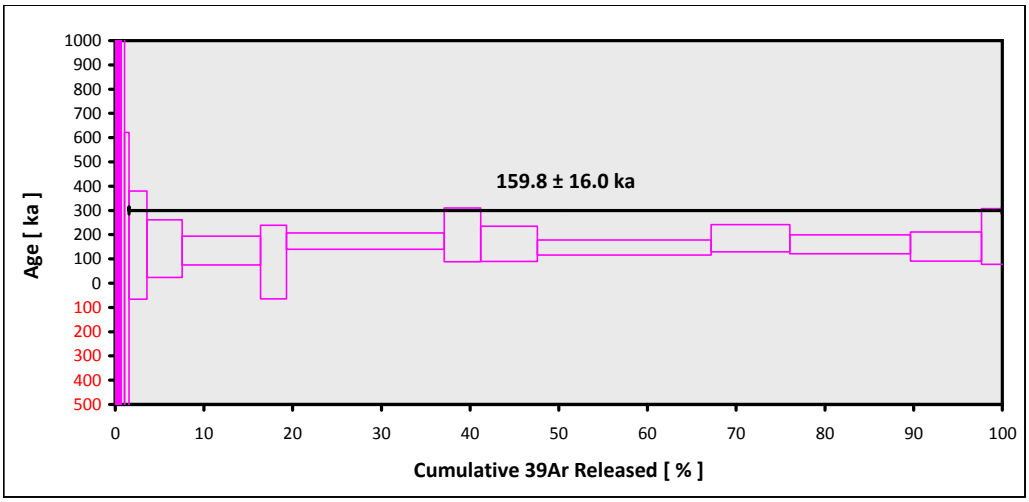
Information on Analysis and Constants Used in Calculations

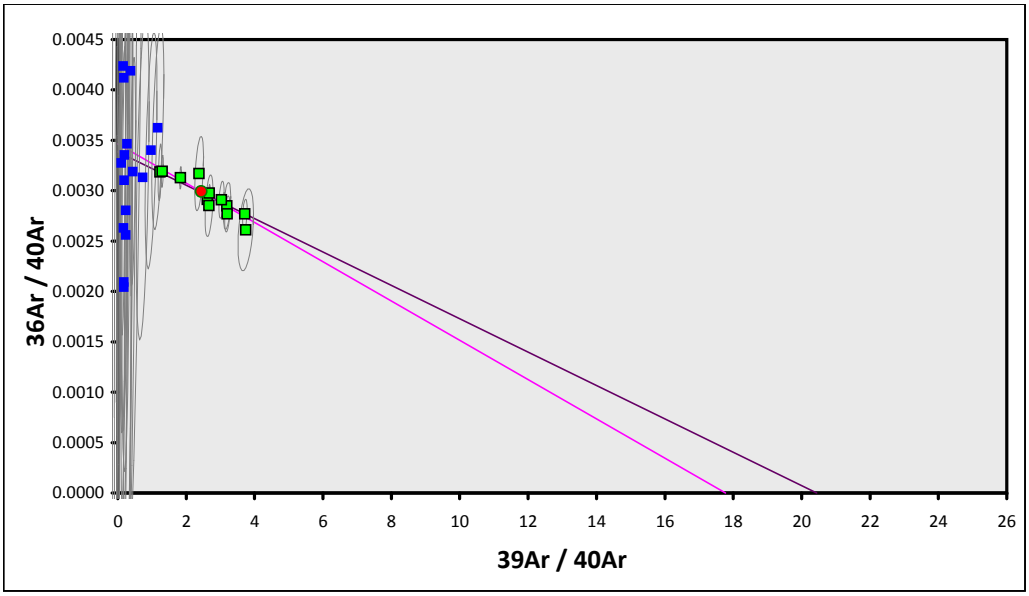
Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1927,1252(72)**
Material = **Hornblende**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B11-15)**
Position = **X: 0 | Y: 0 | Z/H: 17.41 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.69807 ± 0.01487**
FCT-NM J-value = **0.00180700 ± 0.00000309**
Air Shot 40Ar/36Ar = **303.4540 ± 0.6524**
Air Shot MDF = **0.99343864 ± 0.00078001 (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 = **IESRS0103**
Rock Class = **Igneous>Plutonic>Mafic**
Lithology = **Basalt**
Lat-Lon = **37°25.7'S - 12°28.4'W**
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**

Almost perfectly flat, with some high error steps.

Results

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.04891 ± 0.00489 ± 9.99%	**159.8 ± 16.0 ± 10.00%**	0.43 94% Full External Error ± 16.4 Analytical Error ± 16.0	98.44 12 1.85 2σ Confidence Limit 1.0000 Error Magnification	0.148 ± 0.001
Total Fusion Age		0.04754 ± 0.00758 ± 15.95%	**155.3 ± 24.8 ± 15.95%** Full External Error ± 25.0 Analytical Error ± 24.8		30	0.149 ± 0.001
Normal Isochron	**288.73 ± 14.98 ± 5.19%**	0.05602 ± 0.01683 ± 30.05%	**183.0 ± 55.0 ± 30.05%** Full External Error ± 55.1 Analytical Error ± 55.0	0.40 95% 1.89 2σ Confidence Limit 1.0000 Error Magnification	98.44 12	
Inverse Isochron	**288.70 ± 14.97 ± 5.19%**	0.05626 ± 0.01593 ± 28.31%	**183.8 ± 52.1 ± 28.31%** Full External Error ± 52.2 Analytical Error ± 52.0	0.40 95% 1.89 2σ Confidence Limit 1.0000 Error Magnification 14% Spreading Factor	98.44 12	





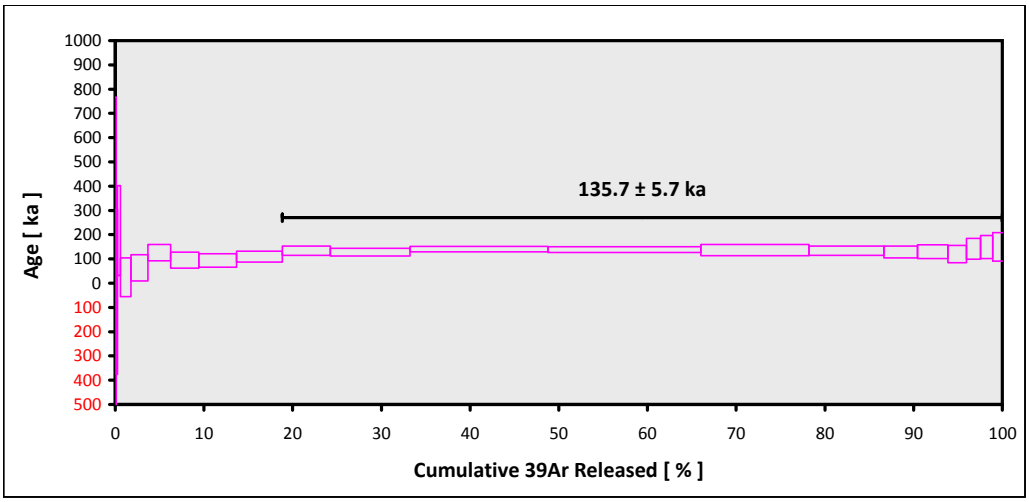
EXP#15D23000 > JM84-N-2 > Plagioclase > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B3-15) > Incremental Heating > Susan Schnur

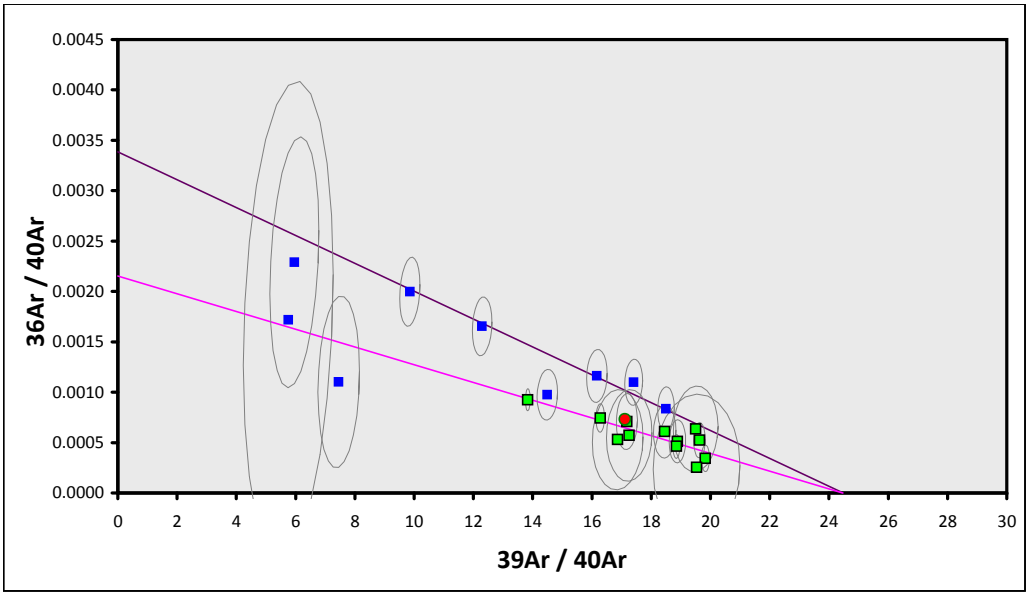
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-N-2**
Material = **Plagioclase**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B3-15)**
Position = **X: 0 | Y: 0 | Z/H: 5.97 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.55438 ± 0.01488**
FCT-NM J-value = **0.00183735 ± 0.00000320**
Air Shot 40Ar/36Ar = **303.4710 ± 0.6525**
Air Shot MDF = **0.99342499 ± 0.00077997 (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 = **IESRS0104**
Rock Class = **Igneous>Plutonic>Mafic**
Lithology = **Trachyte**
Lat-Lon = **37°25.3'S - 12°28.6'W**
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) = **464.50 ± 44.13**
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**

Excess Initial 40Ar/36Ar = 464.50 ± 9.50 (%SD). 40/36 must be adjusted, then good. It has not equilibrated with the atmosphere.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.04085 ± 0.00172	**135.7 ± 5.7**	0.35	81.18	0.278 ± 0.006
		± 4.21%	**± 4.23%**	97%	12	
		Full External Error ± 6.5		1.85	2σ Confidence Limit	
		Analytical Error ± 5.7		1.0000	Error Magnification	
Total Fusion Age		0.03863 ± 0.00172	**128.4 ± 5.7**		21	0.280 ± 0.001
		± 4.44%	**± 4.45%**			
		Full External Error ± 6.4				
		Analytical Error ± 5.7				
Normal Isochron	**490.61 ± 96.88**	0.03934 ± 0.00375	**130.7 ± 12.5**	0.47	81.18	
No Convergence	**± 19.75%**	± 9.53%	**± 9.54%**	91%	12	
		Full External Error ± 12.8		1.89	2σ Confidence Limit	
		Analytical Error ± 12.5		1.0000	Error Magnification	
Inverse Isochron	**464.52 ± 88.15**	0.04088 ± 0.00315	**135.8 ± 10.5**	0.47	81.18	
	± 18.98%	± 7.70%	**± 7.70%**	91%	12	
		Full External Error ± 10.9		1.89	2σ Confidence Limit	
		Analytical Error ± 10.5		1.0000	Error Magnification	
				25%	Spreading Factor	





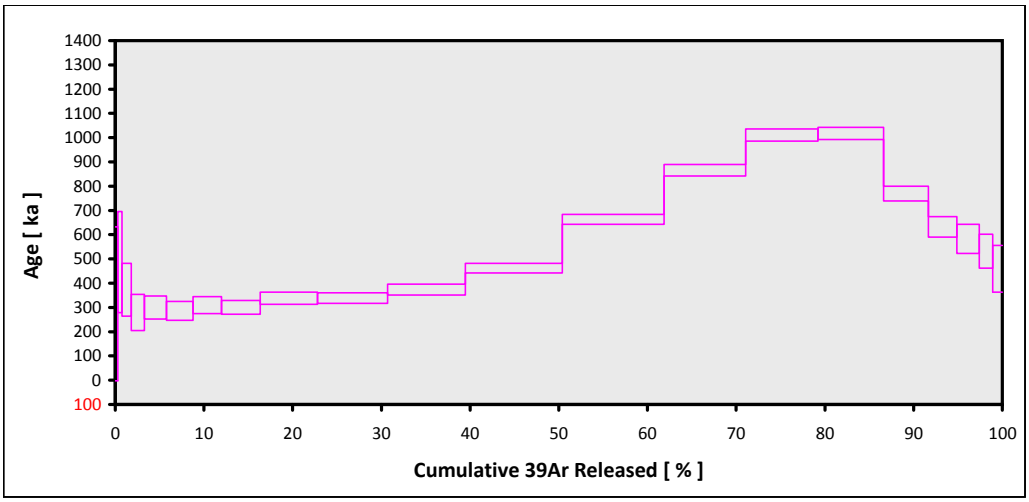
EXP#15D23032 > BM.1962,128(396) > Plagioclase > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B13-15) > Incremental Heating > Susan Schnur

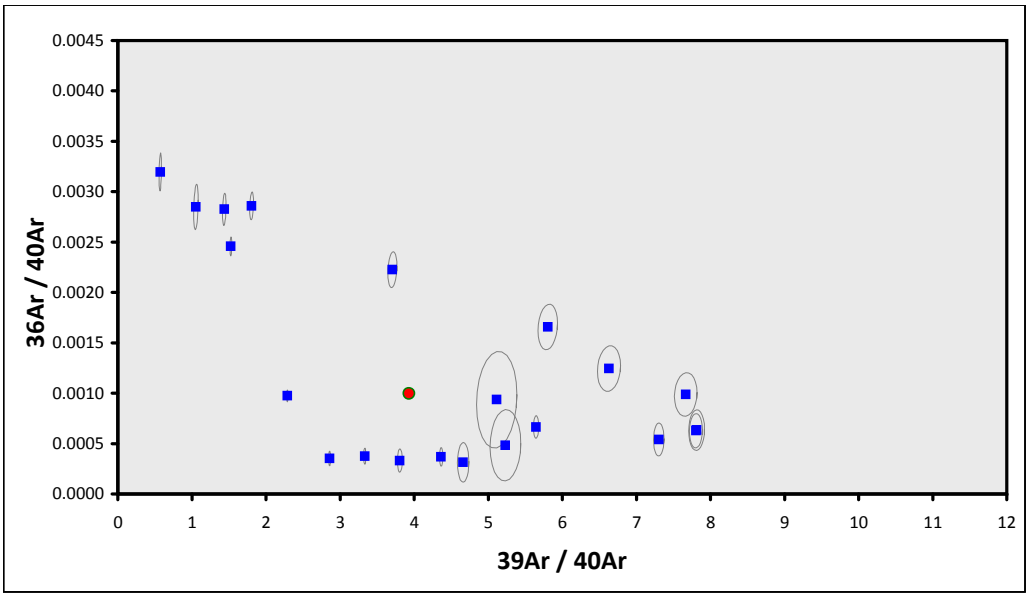
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1962,128(396)**
Material = **Plagioclase**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B13-15)**
Position = **X: 0 | Y: 0 | Z/H: 20.81 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.75161 ± 0.01488**
FCT-NM J-value = **0.00179594 ± 0.00000305**
Air Shot 40Ar/36Ar = **303.4760 ± 0.6525**
Air Shot MDF = **0.99342097 ± 0.00077996 (LIN)**
Experiment Type = **Incremental Heating**
Extraction Method = **Bulk Laser Heating**
Heating = **77 sec**
Isolation = **3.00 min**
Instrument = **ARGUS-VI-D**
Preferred Age = Undefined
Age Classification = Undefined
IGSN = **IESRS0105**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyte**
Lat-Lon = **37°25.0'S - 12°28.6'W**
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**

Strong excess Argon signature, very minimal plateau at low-T.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau						
Cannot Calculate						
Total Fusion Age		0.17934 ± 0.00217 ± 1.21%	**582.3 ± 7.3 ± 1.26%**		21	0.095 ± 0.000
			Full External Error ± 15.0			
			Analytical Error ± 7.1			
Normal Isochron						
Cannot Calculate						
Inverse Isochron						
Cannot Calculate						





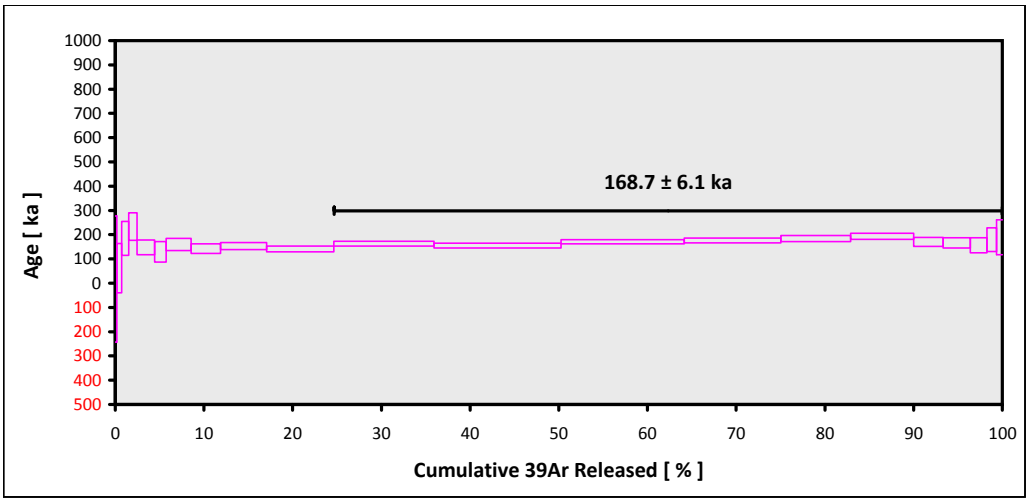
EXP#15D23064 > BM.1962,128(409) > Plagioclase > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B17-15) > Incremental Heating > Susan Schnur

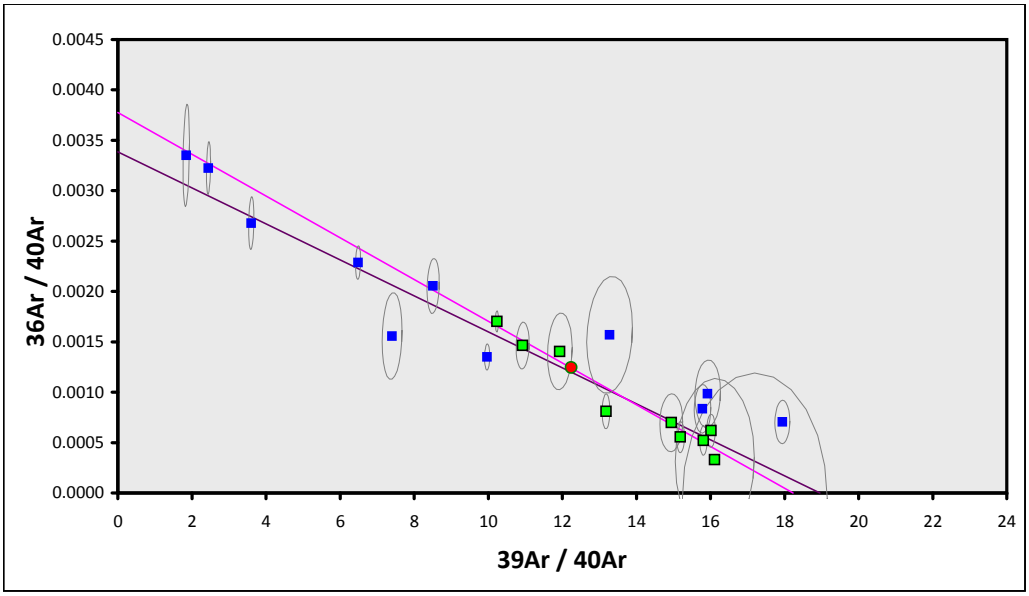
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1962,128(409)**
Material = **Plagioclase**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B17-15)**
Position = **X: 0 | Y: 0 | Z/H: 28.21 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.88534 ± 0.01493**
FCT-NM J-value = **0.00176891 ± 0.00000297**
Air Shot 40Ar/36Ar = **303.4910 ± 0.6495**
Air Shot MDF = **0.99340892 ± 0.00077828 (LIN)**
Experiment Type = **Incremental Heating**
Extraction Method = **Bulk Laser Heating**
Heating = **77 sec**
Isolation = **3.00 min**
Instrument = **ARGUS-VI-D**
Preferred Age = Undefined
Age Classification = Undefined
IGSN = **IESRS0106**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachybasalt**
Lat-Lon = **37°25.0'S - 12°28.6'W**
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**

Plateau climbs gradually, within error at low-T, changing 40/36 doesn't help. Excess Argon.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.05275 ± 0.00190	**168.7 ± 6.1**	2.12	68.27	0.209 ± 0.008
Error Mean		± 3.60%	**± 3.62%**	2%	10	
			Full External Error ± 7.2	1.94	2σ Confidence Limit	
			Analytical Error ± 6.1	1.4577	Error Magnification	
Total Fusion Age		0.05163 ± 0.00114	**165.2 ± 3.7**		21	0.214 ± 0.001
		± 2.21%	**± 2.23%**			
			Full External Error ± 5.2			
			Analytical Error ± 3.6			
Normal Isochron	**236.22 ± 38.85**	0.05674 ± 0.00290	**181.5 ± 9.3**	3.77	68.27	
No Convergence	**± 16.45%**	± 5.12%	**± 5.13%**	0%	10	
			Full External Error ± 10.2	2.00	2σ Confidence Limit	
			Analytical Error ± 9.3	1.9405	Error Magnification	
Inverse Isochron	**264.94 ± 29.67**	0.05485 ± 0.00249	**175.5 ± 8.0**	1.68	68.27	
	± 11.20%	± 4.55%	**± 4.56%**	10%	10	
			Full External Error ± 8.9	2.00	2σ Confidence Limit	
			Analytical Error ± 8.0	1.2943	Error Magnification	
				38%	Spreading Factor	





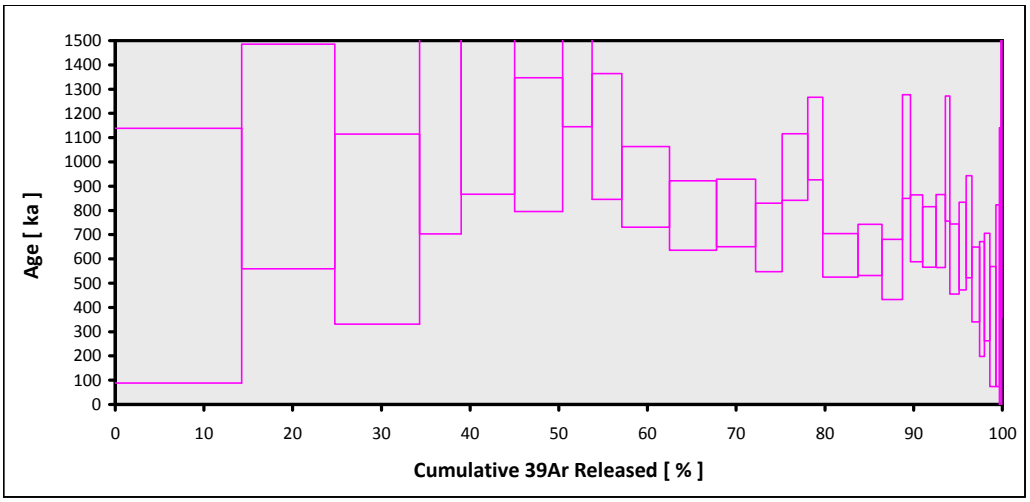
EXP#15D23120 > BM.1927,1252(58) > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > MIDDLE ISLAND
15-OSU-01 (1B23-15) > Incremental Heating > Susan Schnur

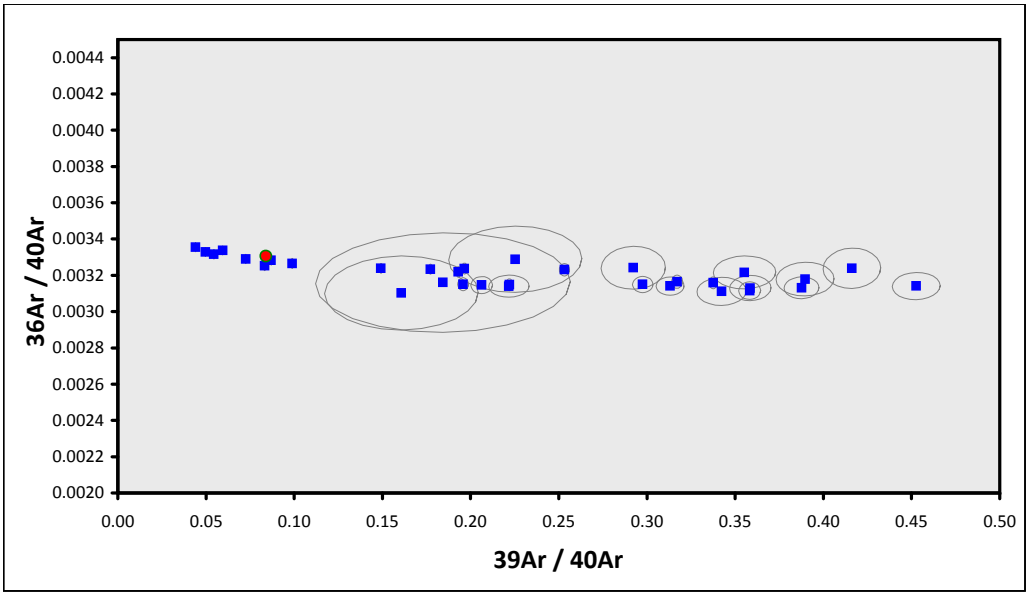
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1927,1252(58)**
Material = **Groundmass**
Location = **Middle Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B23-15)**
Position = **X: 0 | Y: 0 | Z/H: 38.83 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **9.11838 ± 0.01486**
FCT-NM J-value = **0.00172370 ± 0.00000281**
Air Shot 40Ar/36Ar = **303.1100 ± 0.8426**
Air Shot MDF = **0.99371529 ± 0.00089150 (LIN)**
Experiment Type = **Incremental Heating**
Extraction Method = **Bulk Laser Heating**
Heating = **77 sec**
Isolation = **3.00 min**
Instrument = **ARGUS-VI-D**
Preferred Age = Undefined
Age Classification = Undefined
IGSN = **IESRS0107**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Basalt**
Lat-Lon = **37°24.7'N - 12°28.6'W**
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**

Plateau very irregular, only visible plateau is at huge low-T steps. Not great.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau						
Cannot Calculate						
Total Fusion Age		0.27402 ± 0.03347 ± 12.22%	**853.9 ± 104.3 ± 12.22%**		33	0.284 ± 0.001
			Full External Error ± 106.1			
			Analytical Error ± 104.3			
Normal Isochron						
Cannot Calculate						
Inverse Isochron						
Cannot Calculate						





EXP#15D23166 > BM.1927,1252(41) > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > MIDDLE ISLAND
15-OSU-01 (1B19-15) > Incremental Heating > Susan Schnur

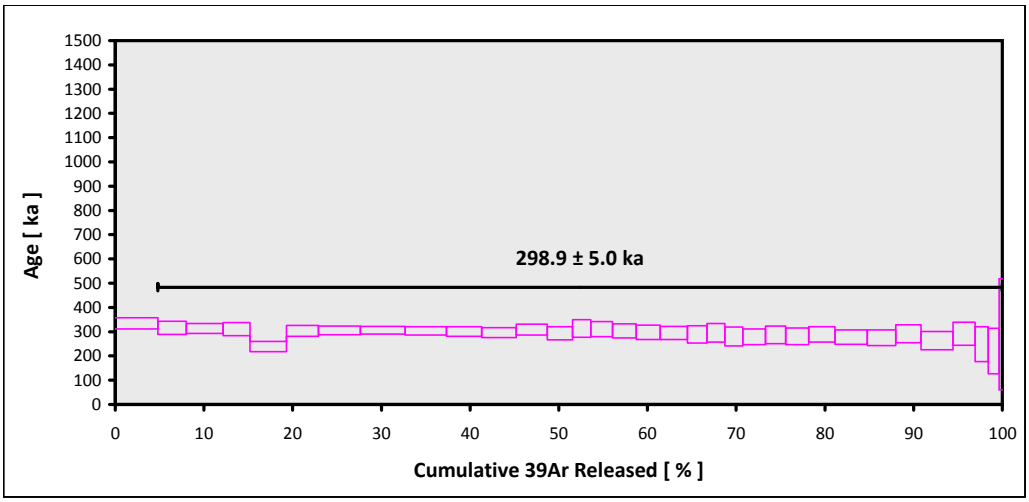
Information on Analysis and Constants Used in Calculations

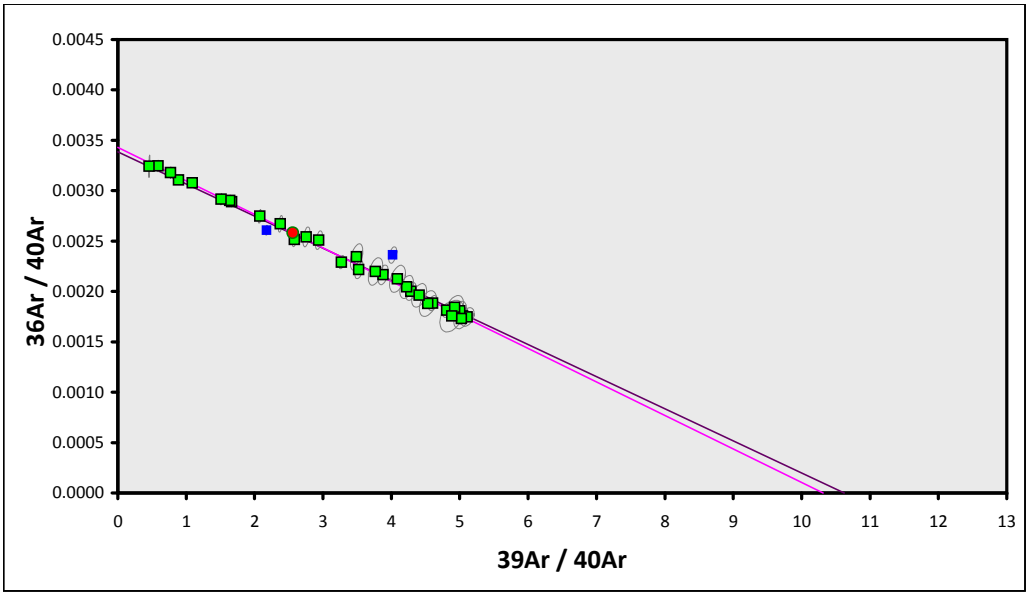
Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1927,1252(41)**
Material = **Groundmass**
Location = **Middle Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B19-15)**
Position = **X: 0 | Y: 0 | Z/H: 31.4 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.95025 ± 0.01486**
FCT-NM J-value = **0.00175608 ± 0.00000292**
Air Shot 40Ar/36Ar = **303.5060 ± 0.6495**
Air Shot MDF = **0.99339688 ± 0.00077825 (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 = **IESRS0108**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Tephrite**
Lat-Lon = **37°24.6'S - 12°29.0'W**
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**

One odd low-age outlier step, but otherwise good.

Results

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.09412 ± 0.00155 ± 1.64%	**298.9 ± 5.0 ± 1.68%**	0.87	91.08	0.15 ± 0.04
		Full External Error ± 8.4		67%	31	
		Analytical Error ± 4.9		1.52	2σ Confidence Limit	
				1.0000	Error Magnification	
Total Fusion Age		0.09265 ± 0.00163 ± 1.76%	**294.2 ± 5.3 ± 1.79%**		33	0.81 ± 0.00
		Full External Error ± 8.5				
		Analytical Error ± 5.2				
Normal Isochron	**291.56 ± 2.26 ± 0.77%**	0.09686 ± 0.00223 ± 2.30%	**307.5 ± 7.1 ± 2.32%**	0.49	91.08	
		Full External Error ± 10.0		99%	31	
		Analytical Error ± 7.1		1.53	2σ Confidence Limit	
				1.0000	Error Magnification	
Inverse Isochron	**291.57 ± 2.26 ± 0.77%**	0.09694 ± 0.00222 ± 2.29%	**307.8 ± 7.1 ± 2.32%**	0.49	91.08	
		Full External Error ± 10.0		99%	31	
		Analytical Error ± 7.1		1.53	2σ Confidence Limit	
				1.0000	Error Magnification	
				45%	Spreading Factor	





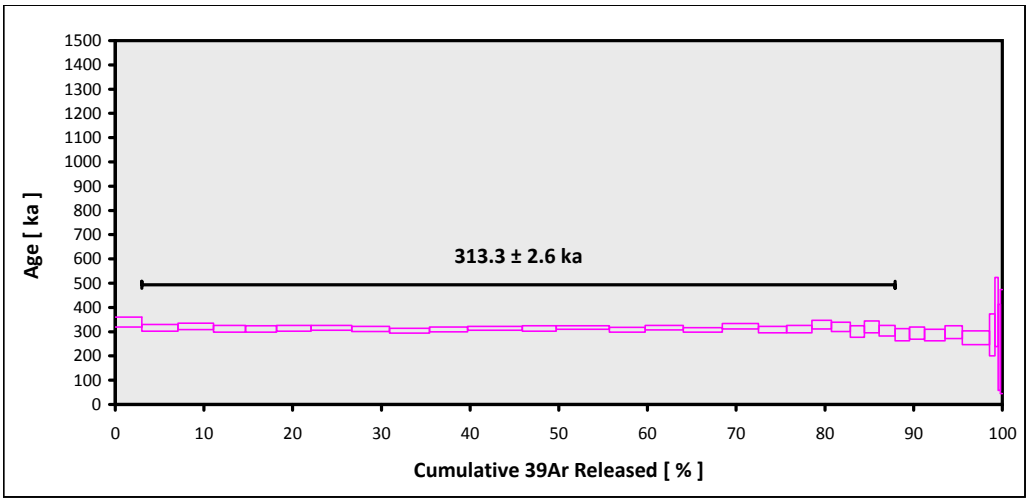
EXP#15D23236 > BM.64775 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B8-15) > Incremental Heating > Susan Schnur

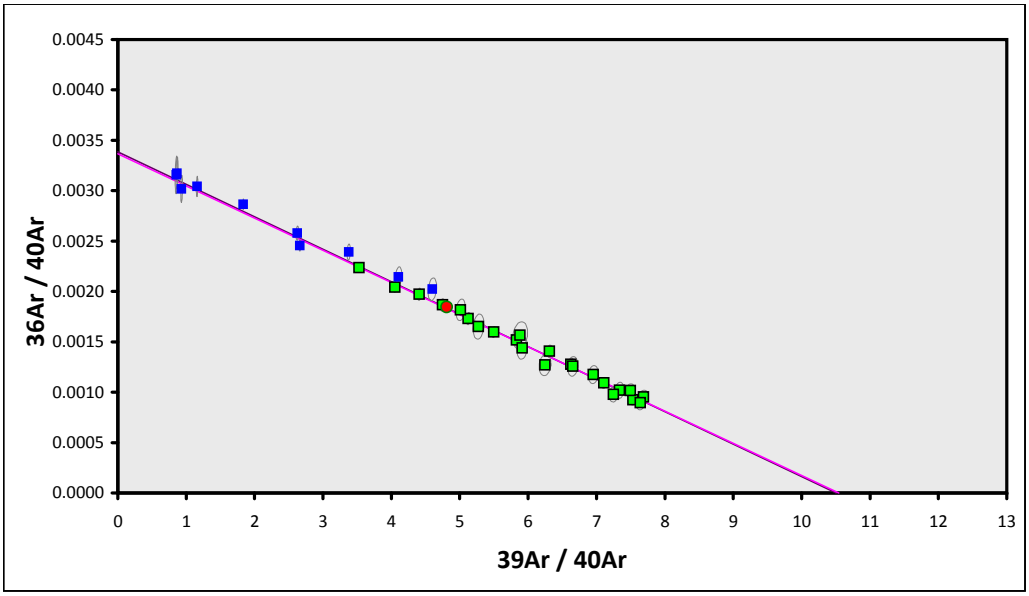
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.64775**
Material = **Groundmass**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B8-15)**
Position = **X: 0 | Y: 0 | Z/H: 12.81 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.63353 ± 0.01494**
FCT-NM J-value = **0.00182051 ± 0.00000315**
Air Shot 40Ar/36Ar = **303.5140 ± 0.6495**
Air Shot MDF = **0.99339046 ± 0.00077823 (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 = **IESRS0109**
Rock Class = **Igneous>Volcanic>Intermediate**
Lithology = **Andesite**
Lat-Lon = **37°25.8'S - 12°28.8'W**
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**

Dips at high-T end, but otherwise good.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.09518 ± 0.00073	**313.3 ± 2.6**	0.93	84.91	1.27 ± 0.15
		± 0.76%	**± 0.84%**	55%	23	
		Full External Error ± 7.5		1.60	2σ Confidence Limit	
		Analytical Error ± 2.4		1.0000	Error Magnification	
Total Fusion Age		0.09454 ± 0.00083	**311.2 ± 2.9**		33	0.94 ± 0.00
		± 0.88%	**± 0.95%**			
		Full External Error ± 7.6				
		Analytical Error ± 2.7				
Normal Isochron	**297.44 ± 5.91**	0.09463 ± 0.00151	**311.5 ± 5.1**	0.94	84.91	
	± 1.99%	± 1.59%	**± 1.63%**	54%	23	
		Full External Error ± 8.7		1.62	2σ Confidence Limit	
		Analytical Error ± 5.0		1.0000	Error Magnification	
Inverse Isochron	**297.10 ± 5.88**	0.09484 ± 0.00149	**312.2 ± 5.0**	0.97	84.91	
	± 1.98%	± 1.57%	**± 1.61%**	50%	23	
		Full External Error ± 8.7		1.62	2σ Confidence Limit	
		Analytical Error ± 4.9		1.0000	Error Magnification	
				39%	Spreading Factor	





EXP#15D23282 > BM.1962,128(405) > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B15-15) > Incremental Heating > Susan Schnur

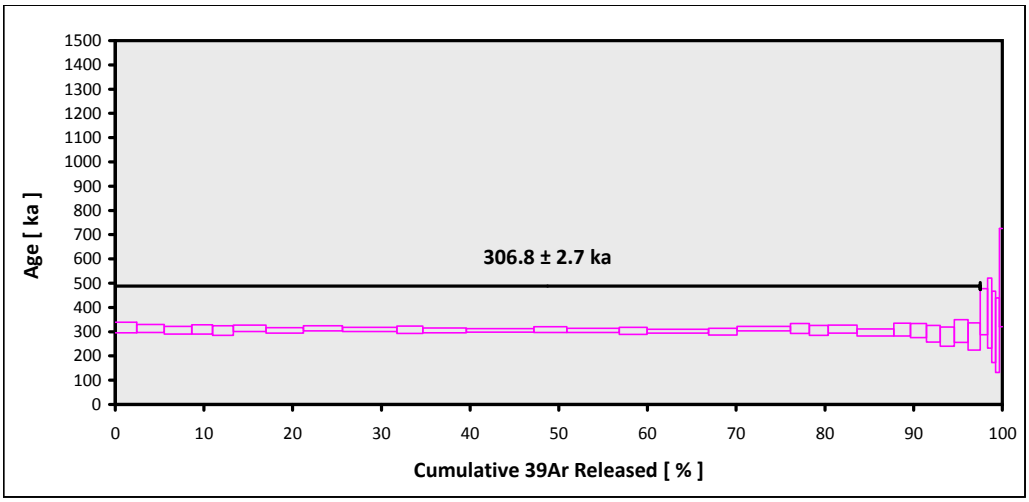
Information on Analysis and Constants Used in Calculations

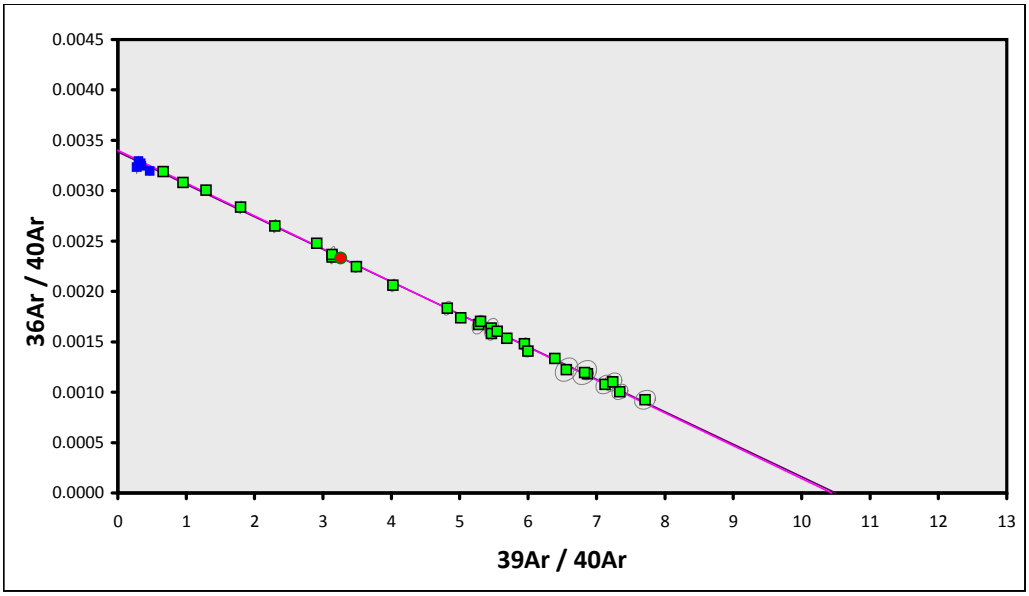
Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1962,128(405)**
Material = **Groundmass**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B15-15)**
Position = **X: 0 | Y: 0 | Z/H: 24.9 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.82261 ± 0.01491**
FCT-NM J-value = **0.00178149 ± 0.00000301**
Air Shot 40Ar/36Ar = **303.5200 ± 0.6495**
Air Shot MDF = **0.99338564 ± 0.00077821 (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 = **IESRS0110**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyte**
Lat-Lon = **37°25.5'S - 12°29.1'W**
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**

Good plateau.

Results

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.09524 ± 0.00077 (± 0.81%)	**306.8 ± 2.7 (± 0.87%)**	0.60	97.52	0.58 ± 0.20
			Full External Error ± 7.4	95%	28	
			Analytical Error ± 2.5	1.54	2σ Confidence Limit	
				1.0000	Error Magnification	
Total Fusion Age		0.09552 ± 0.00098 (± 1.03%)	**307.7 ± 3.3 (± 1.08%)**		33	2.53 ± 0.02
			Full External Error ± 7.7			
			Analytical Error ± 3.2			
Normal Isochron	**293.91 ± 2.23 (± 0.76%)**	0.09572 ± 0.00107 (± 1.11%)	**308.3 ± 3.6 (± 1.16%)**	0.54	97.52	
			Full External Error ± 7.8	97%	28	
			Analytical Error ± 3.4	1.55	2σ Confidence Limit	
				1.0000	Error Magnification	
Inverse Isochron	**293.91 ± 2.24 (± 0.76%)**	0.09578 ± 0.00107 (± 1.11%)	**308.5 ± 3.6 (± 1.16%)**	0.54	97.52	
			Full External Error ± 7.8	97%	28	
			Analytical Error ± 3.4	1.55	2σ Confidence Limit	
				1.0000	Error Magnification	
				68%	Spreading Factor	





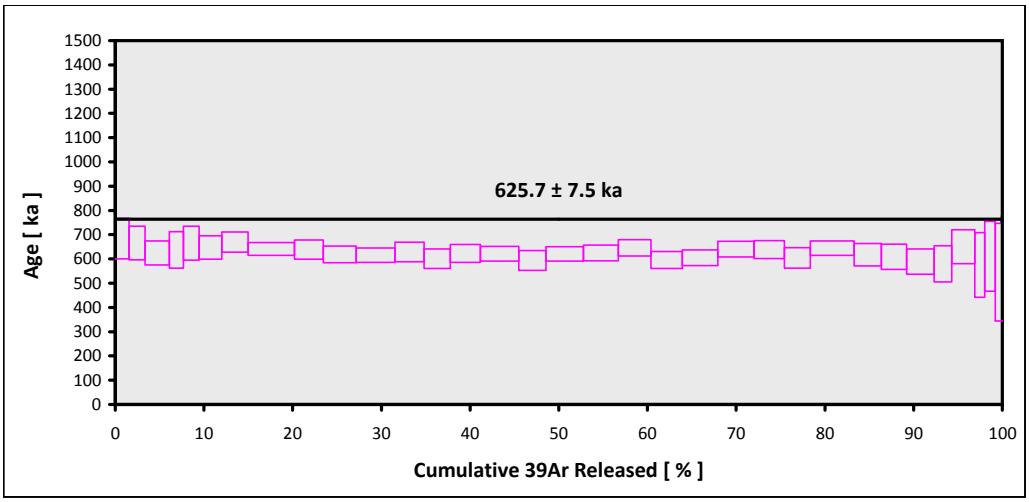
EXP#15D26532 > JM84-IN-3 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A6-15) > Incremental Heating > Joanna Rose

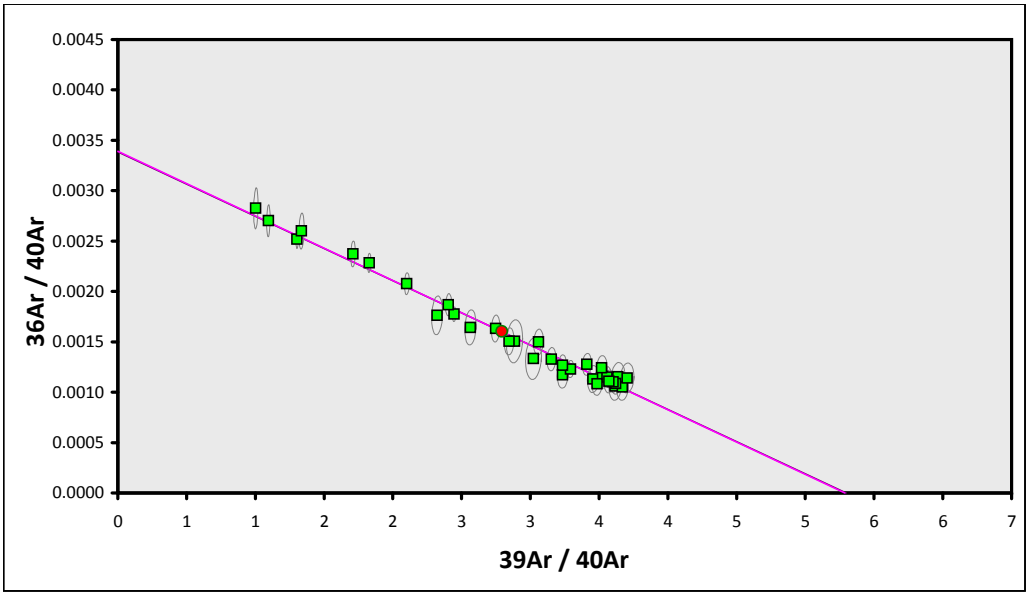
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-3**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Joanna Rose**
Irradiation = **15-OSU-01 (1A6-15)**
Position = **X: 0 | Y: 0 | Z/H: 9.62 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.57306 ± 0.01603**
FCT-NM J-value = **0.00183335 ± 0.00000343**
Air Shot 40Ar/36Ar = **303.5340 ± 0.6344**
Air Shot MDF = **0.99337440 ± 0.00077006 (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 = **IESRS0111**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Alkali Basalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Good plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.18877 ± 0.00216	**625.7 ± 7.5**	1.02	100.00	0.034 ± 0.010
		± 1.15%	**± 1.21%**	44%	33	
		Full External Error	± 16.0	1.50	2σ Confidence Limit	
		Analytical Error	± 7.2	1.0076	Error Magnification	
Total Fusion Age		0.18856 ± 0.00235	**625.0 ± 8.1**		33	0.280 ± 0.002
		± 1.25%	**± 1.30%**			
		Full External Error	± 16.3			
		Analytical Error	± 7.8			
Normal Isochron	**294.89 ± 7.18**	0.18829 ± 0.00396	**624.1 ± 13.3**	1.03	100.00	
	± 2.44%	± 2.10%	**± 2.13%**	42%	33	
		Full External Error	± 19.4	1.51	2σ Confidence Limit	
		Analytical Error	± 13.1	1.0156	Error Magnification	
Inverse Isochron	**294.85 ± 7.30**	0.18910 ± 0.00399	**626.8 ± 13.4**	1.05	100.00	
	± 2.47%	± 2.11%	**± 2.14%**	39%	33	
		Full External Error	± 19.5	1.51	2σ Confidence Limit	
		Analytical Error	± 13.2	1.0235	Error Magnification	
				51%	Spreading Factor	





OSU Argon Geochronology Lab
CEOAS Oregon State University, Corvallis, USA

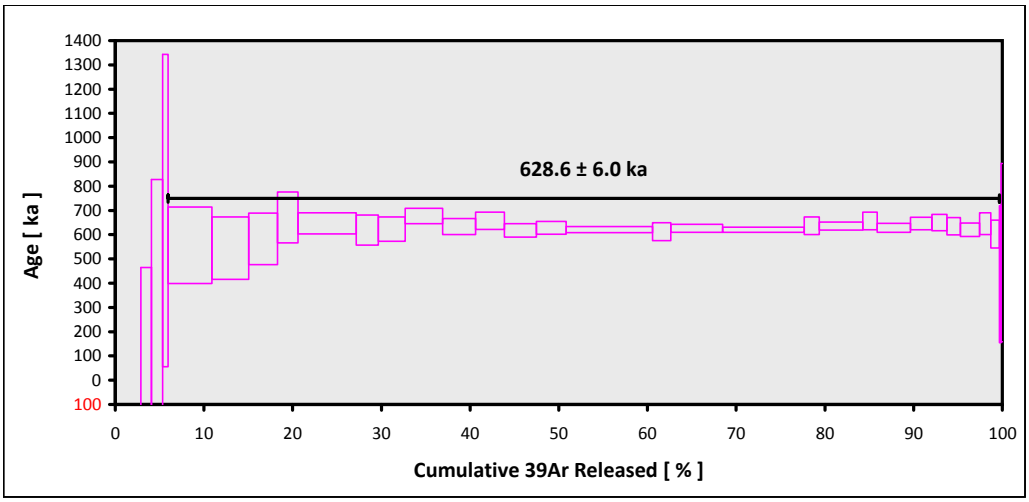
EXP#15D26578 > JM84-IN-10 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A11-15) > Incremental Heating > Joanna Rose

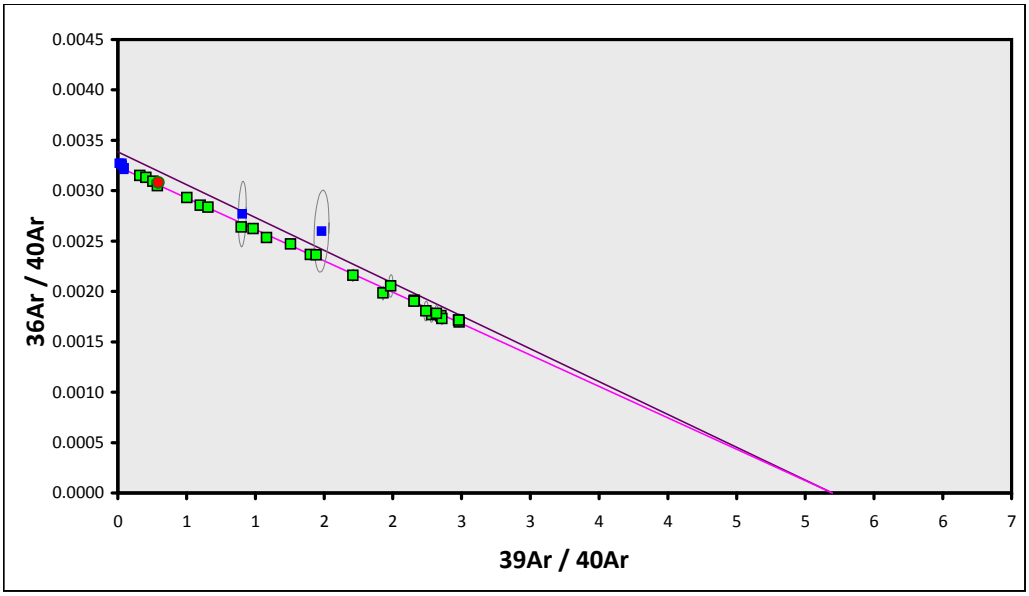
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-10**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Joanna Rose**
Irradiation = **15-OSU-01 (1A11-15)**
Position = **X: 0 | Y: 0 | Z/H: 18.72 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.69865 ± 0.01601**
FCT-NM J-value = **0.00180688 ± 0.00000332**
Air Shot 40Ar/36Ar = **303.5360 ± 0.6314**
Air Shot MDF = **0.99337279 ± 0.00076845 (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 = **Eruption Age**
IGSN = **IESRS0112**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyandesite**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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) = **308.60 ± 0.62**
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**

Excess Initial 40Ar/36Ar = 308.60 ± 0.20 (%SD). Excess Argon, adjust 40/36 to get a slightly improved plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.19241 ± 0.00170	**628.6 ± 6.0**	1.24	93.75	0.31 ± 0.14
		± 0.88%	**± 0.96%**	19%	26	
		Full External Error	± 15.4	1.57	2σ Confidence Limit	
		Analytical Error	± 5.6	1.1153	Error Magnification	
Total Fusion Age		0.16807 ± 0.00894	**549.1 ± 29.3**		33	1.33 ± 0.01
		± 5.32%	**± 5.33%**			
		Full External Error	± 31.8			
		Analytical Error	± 29.2			
Normal Isochron	**308.58 ± 1.22**	0.19231 ± 0.00232	**628.2 ± 7.9**	1.42	93.75	
	± 0.39%	± 1.20%	**± 1.26%**	8%	26	
		Full External Error	± 16.2	1.58	2σ Confidence Limit	
		Analytical Error	± 7.6	1.1916	Error Magnification	
Inverse Isochron	**308.60 ± 1.23**	0.19240 ± 0.00234	**628.5 ± 8.0**	1.44	93.75	
	± 0.40%	± 1.22%	**± 1.27%**	7%	26	
		Full External Error	± 16.3	1.58	2σ Confidence Limit	
		Analytical Error	± 7.6	1.2016	Error Magnification	
				45%	Spreading Factor	





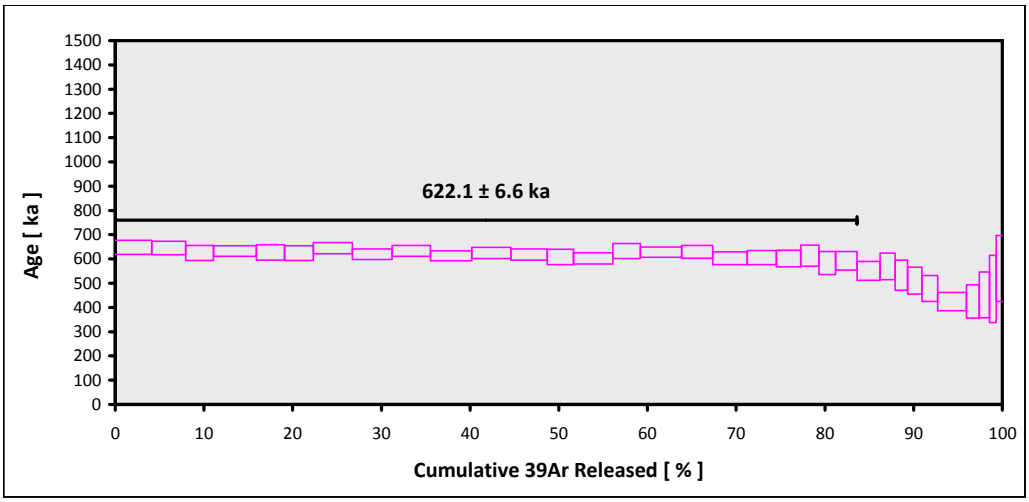
EXP#15D26624 > JM84-IN-13 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A15-15) > Incremental Heating > Joanna Rose

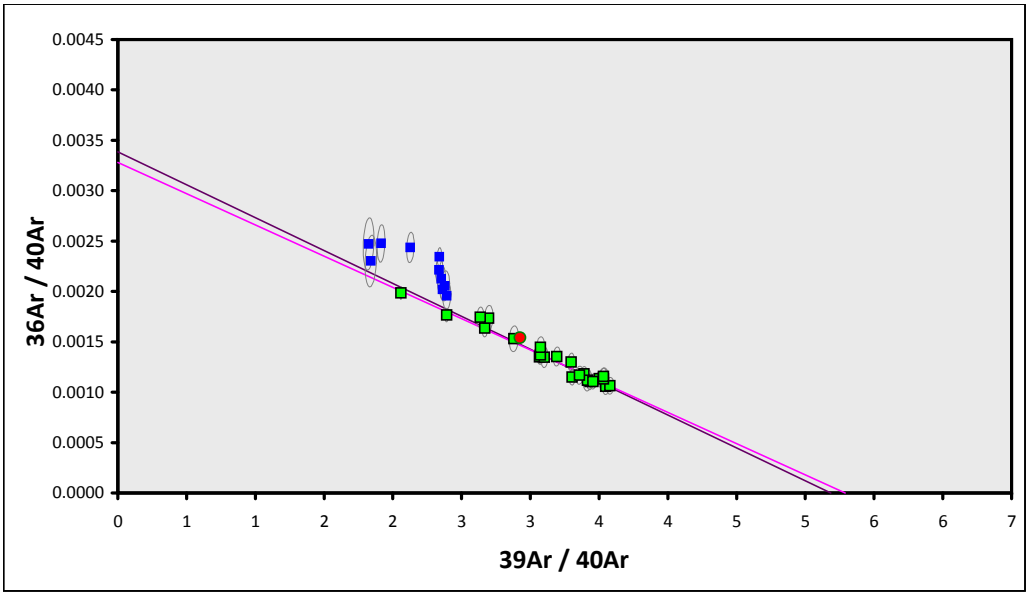
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-13**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Joanna Rose**
Irradiation = **15-OSU-01 (1A15-15)**
Position = **X: 0 | Y: 0 | Z/H: 25.18 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.80974 ± 0.01603**
FCT-NM J-value = **0.00178409 ± 0.00000325**
Air Shot 40Ar/36Ar = **303.5320 ± 0.6344**
Air Shot MDF = **0.99337600 ± 0.00077007 (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 = **IESRS0113**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachybasalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Drops off at high-T end, but otherwise OK.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.19285 ± 0.00193	**622.1 ± 6.6**	1.26	83.61	0.457 ± 0.012
		± 1.00%	**± 1.06%**	19%	23	
		Full External Error	± 15.5	1.60	2σ Confidence Limit	
		Analytical Error	± 6.2	1.1224	Error Magnification	
Total Fusion Age		0.18618 ± 0.00176	**600.6 ± 6.1**		33	0.366 ± 0.002
		± 0.95%	**± 1.01%**			
		Full External Error	± 14.9			
		Analytical Error	± 5.7			
Normal Isochron	**304.49 ± 12.79**	0.18870 ± 0.00566	**608.7 ± 18.4**	1.22	83.61	
	± 4.20%	± 3.00%	**± 3.02%**	22%	23	
		Full External Error	± 22.9	1.62	2σ Confidence Limit	
		Analytical Error	± 18.2	1.1052	Error Magnification	
Inverse Isochron	**304.73 ± 12.63**	0.18904 ± 0.00550	**609.8 ± 17.9**	1.19	83.61	
	± 4.14%	± 2.91%	**± 2.93%**	25%	23	
		Full External Error	± 22.6	1.62	2σ Confidence Limit	
		Analytical Error	± 17.7	1.0909	Error Magnification	
				29%	Spreading Factor	





OSU Argon Geochronology Lab
CEOAS Oregon State University, Corvallis, USA

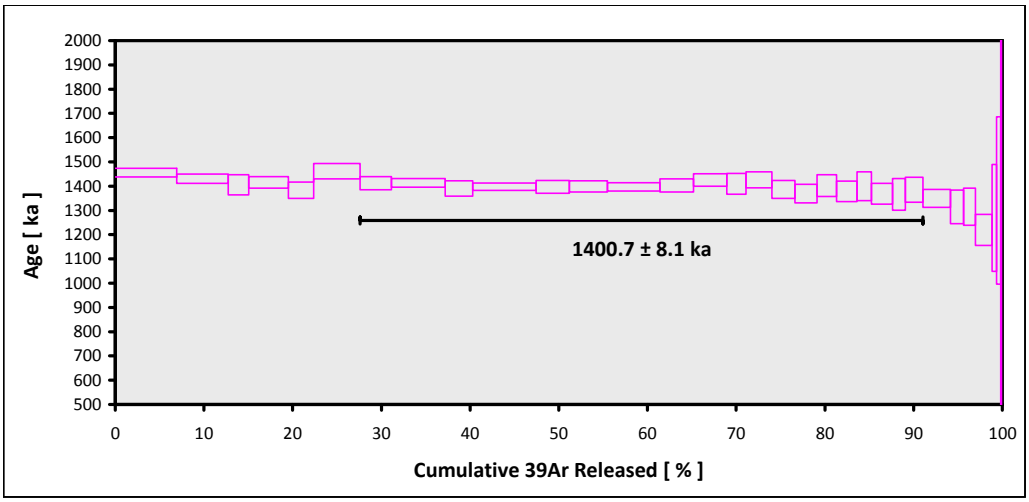
EXP#15D26704 > BM.64760 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A16-15) > Incremental Heating > Joanna Rose

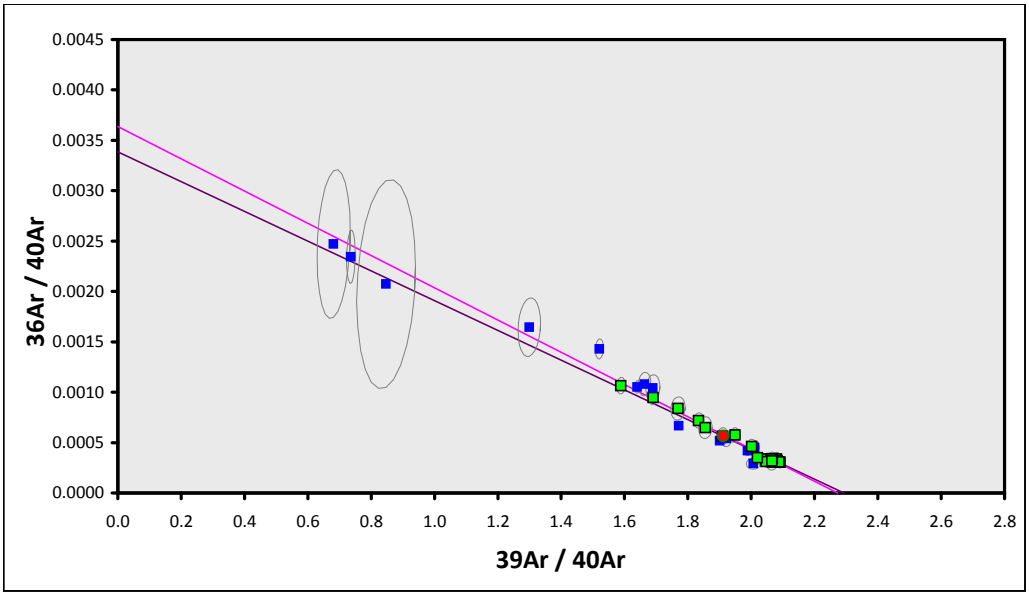
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.64760**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Joanna Rose**
Irradiation = **15-OSU-01 (1A16-15)**
Position = **X: 0 | Y: 0 | Z/H: 27.09 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.84608 ± 0.01601**
FCT-NM J-value = **0.00177676 ± 0.00000322**
Air Shot 40Ar/36Ar = **303.5280 ± 0.6344**
Air Shot MDF = **0.99337921 ± 0.00077008 (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 = **IESRS0114**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Basalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Plateau slightly dipping, ups and downs at start and end, but plateau OK.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.43612 ± 0.00197	**1400.7 ± 8.1**	0.99	63.48	0.582 ± 0.067
		± 0.45%	**± 0.58%**	46%	19	
		Full External Error ± 32.6		1.67	2σ Confidence Limit	
		Analytical Error ± 6.3		1.0000	Error Magnification	
Total Fusion Age		0.43597 ± 0.00192	**1400.2 ± 8.0**		33	0.320 ± 0.002
		± 0.44%	**± 0.57%**			
		Full External Error ± 32.6				
		Analytical Error ± 6.2				
Normal Isochron	**272.83 ± 18.39**	0.44002 ± 0.00400	**1413.2 ± 13.8**	0.73	63.48	
No Convergence	**± 6.74%**	± 0.91%	**± 0.98%**	77%	19	
		Full External Error ± 34.8		1.69	2σ Confidence Limit	
		Analytical Error ± 12.8		1.0000	Error Magnification	
Inverse Isochron	**275.07 ± 18.54**	0.44004 ± 0.00398	**1413.3 ± 13.8**	0.80	63.48	
	± 6.74%	± 0.91%	**± 0.97%**	69%	19	
		Full External Error ± 34.7		1.69	2σ Confidence Limit	
		Analytical Error ± 12.8		1.0000	Error Magnification	
				22%	Spreading Factor	





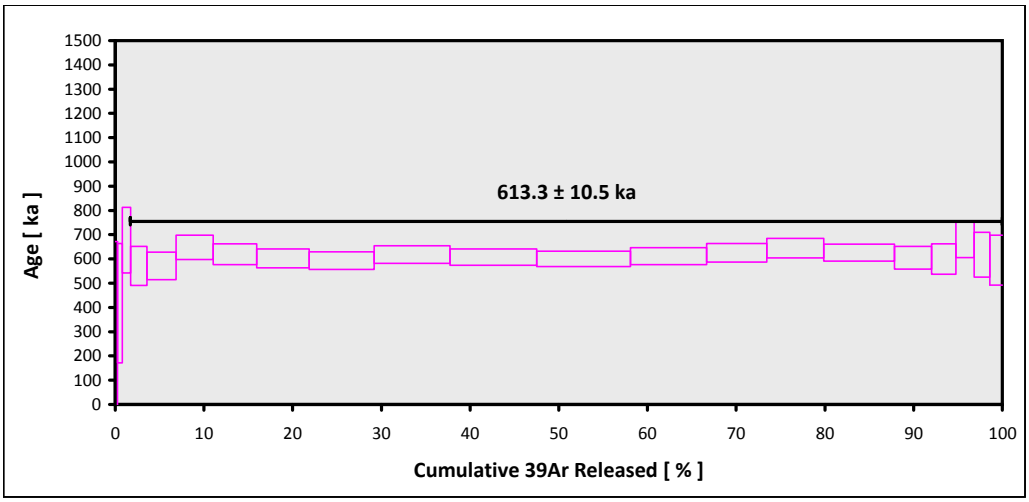
EXP#15D26750 > JM84-IN-1 > Plagioclase > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A2-15) > Incremental Heating > Joanna Rose

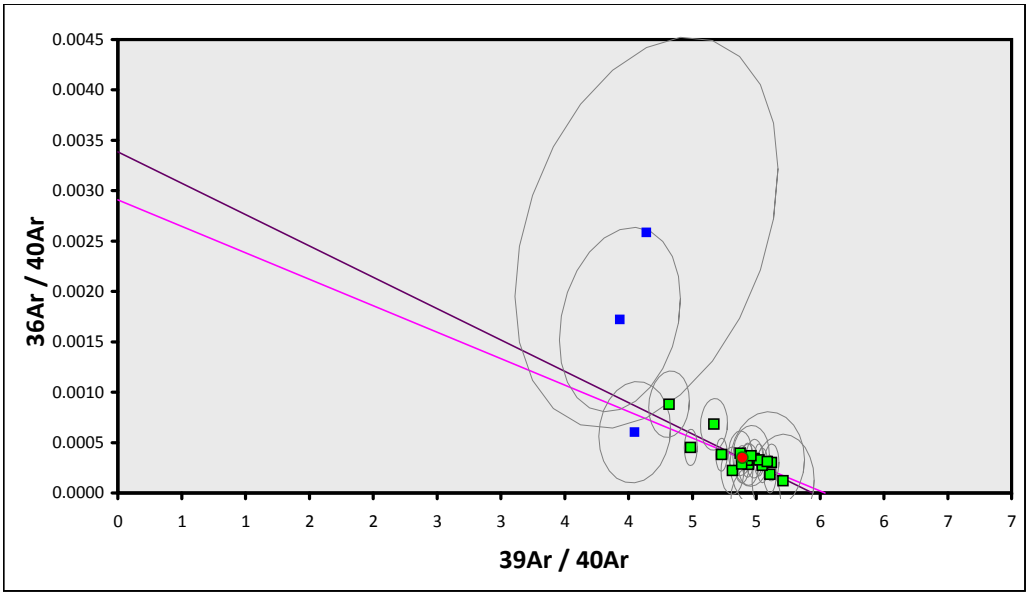
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-1**
Material = **Plagioclase**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Joanna Rose**
Irradiation = **15-OSU-01 (1A2-15)**
Position = **X: 0 | Y: 0 | Z/H: 4.19 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.51534 ± 0.01601**
FCT-NM J-value = **0.00184577 ± 0.00000347**
Air Shot 40Ar/36Ar = **303.5280 ± 0.6313**
Air Shot MDF = **0.99337921 ± 0.00076847 (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 = **IESRS0115**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyandesite**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Good, although isochron has high error.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.18377 ± 0.00307	**613.3 ± 10.5**	0.87	98.28	0.061 ± 0.000
		± 1.67%	**± 1.71%**	62%	18	
			Full External Error ± 17.4	1.69	2σ Confidence Limit	
			Analytical Error ± 10.2	1.0000	Error Magnification	
Total Fusion Age		0.18332 ± 0.00310	**611.8 ± 10.6**		21	0.062 ± 0.000
		± 1.69%	**± 1.73%**			
			Full External Error ± 17.4			
			Analytical Error ± 10.4			
Normal Isochron	**34.54 ± 120.72**	0.19856 ± 0.00775	**662.6 ± 26.0**	5.64	98.28	
No Convergence	**######## ± 3.90%**		**± 3.92%**	0%	18	
			Full External Error ± 30.0	1.71	2σ Confidence Limit	
			Analytical Error ± 25.8	2.3743	Error Magnification	
Inverse Isochron	**343.93 ± 151.38**	0.18054 ± 0.00835	**602.5 ± 28.0**	0.89	98.28	
	± 44.02%	± 4.63%	**± 4.64%**	59%	18	
			Full External Error ± 31.1	1.71	2σ Confidence Limit	
			Analytical Error ± 27.9	1.0000	Error Magnification	
				16%	Spreading Factor	





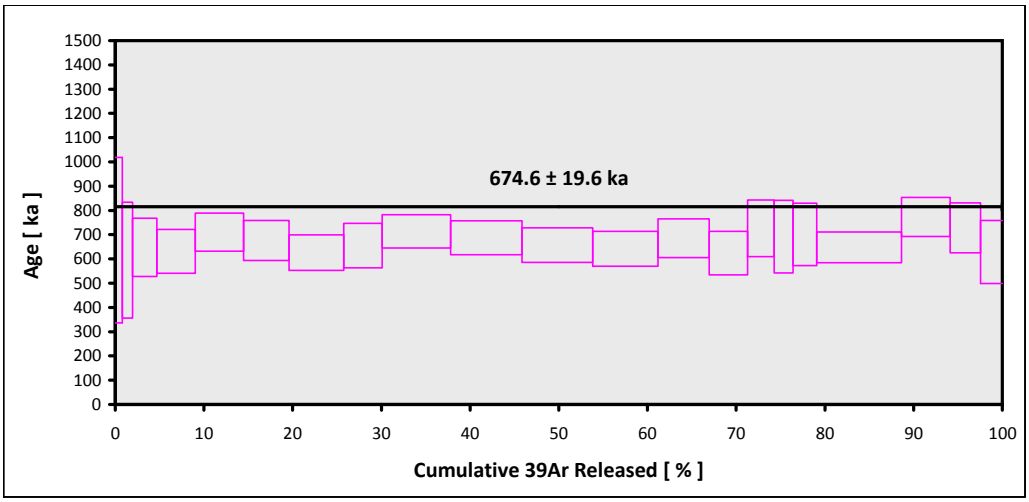
EXP#15D26782 > JM84-IN-9 > Plagioclase > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A10-15) > Incremental Heating > Joanna Rose

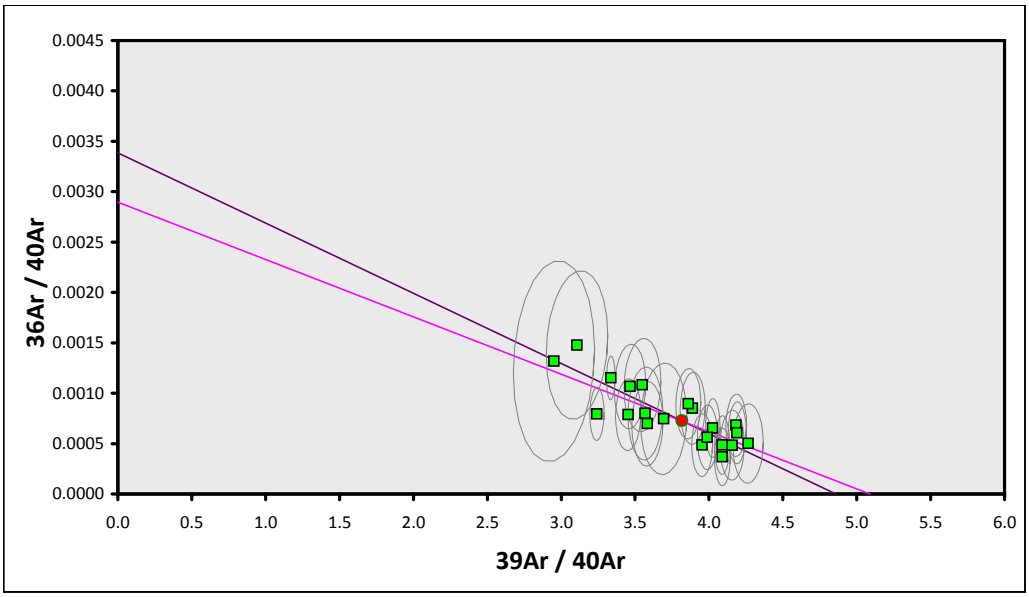
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-9**
Material = **Plagioclase**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Joanna Rose**
Irradiation = **15-OSU-01 (1A10-15)**
Position = **X: 0 | Y: 0 | Z/H: 16.76 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.66854 ± 0.01604**
FCT-NM J-value = **0.00181315 ± 0.00000335**
Air Shot 40Ar/36Ar = **303.5340 ± 0.6344**
Air Shot MDF = **0.99337440 ± 0.00077006 (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 = **IESRS0116**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachybasalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Large error, plateau has ups and downs but all within error.
MSWD slightly low.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.20578 ± 0.00592	**674.6 ± 19.6**	0.88	100.00	0.0292 ± 0.0001
		± 2.88%	**± 2.90%**	62%	21	
		Full External Error ± 24.8		1.63	2σ Confidence Limit	
		Analytical Error ± 19.4		1.0000	Error Magnification	
Total Fusion Age		0.20563 ± 0.00597	**674.1 ± 19.7**		21	0.0292 ± 0.0001
		± 2.90%	**± 2.92%**			
		Full External Error ± 24.9				
		Analytical Error ± 19.6				
Normal Isochron	**318.46 ± 83.59**	0.19498 ± 0.01819	**639.2 ± 59.7**	0.63	100.00	
No Convergence	**± 26.25%**	± 9.33%	**± 9.33%**	89%	21	
		Full External Error ± 61.4		1.65	2σ Confidence Limit	
		Analytical Error ± 59.6		1.0000	Error Magnification	
Inverse Isochron	**345.38 ± 98.49**	0.19653 ± 0.01599	**644.3 ± 52.5**	0.85	100.00	
	± 28.52%	± 8.14%	**± 8.14%**	64%	21	
		Full External Error ± 54.4		1.65	2σ Confidence Limit	
		Analytical Error ± 52.4		1.0000	Error Magnification	
				26%	Spreading Factor	





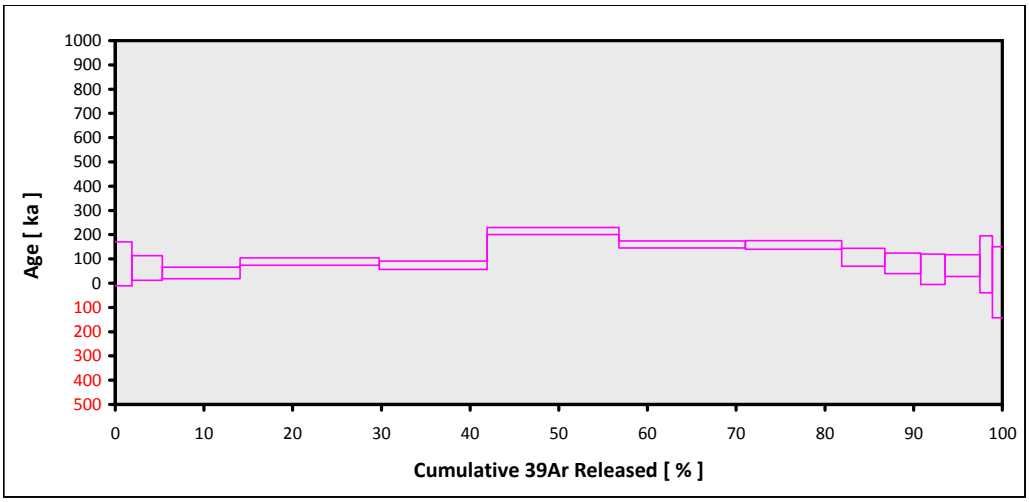
EXP#15D26814 > JM84-N-4 > Plagioclase > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1B6-15) > Incremental Heating > Joanna Rose

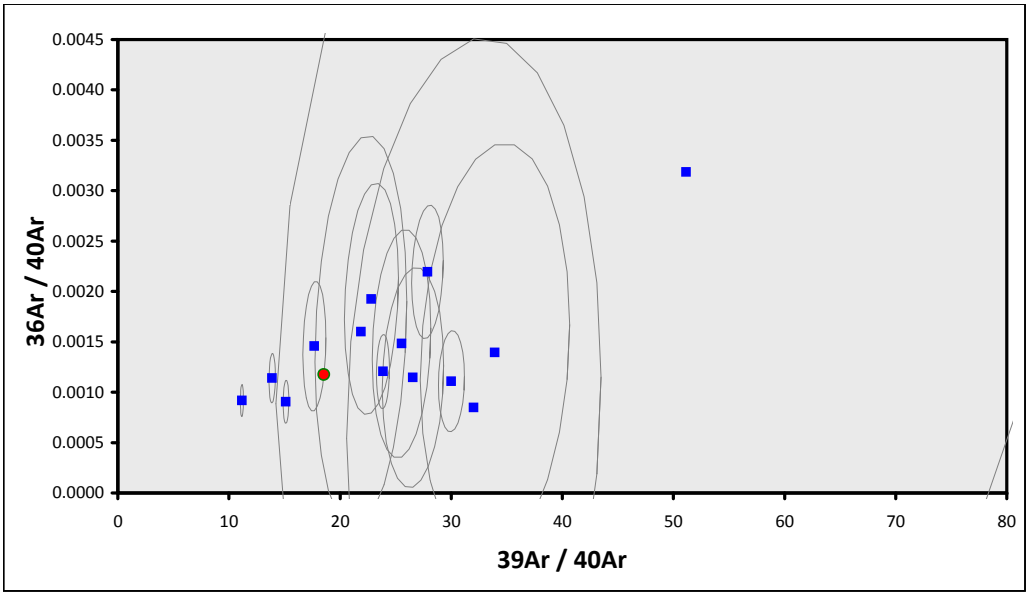
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-N-4**
Material = **Plagioclase**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Joanna Rose**
Irradiation = **15-OSU-01 (1B6-15)**
Position = **X: 0 | Y: 0 | Z/H: 10.5 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.60455 ± 0.01489**
FCT-NM J-value = **0.00182664 ± 0.00000316**
Air Shot 40Ar/36Ar = **303.5380 ± 0.6344**
Air Shot MDF = **0.99337119 ± 0.00077005 (LIN)**
Experiment Type = **Incremental Heating**
Extraction Method = **Bulk Laser Heating**
Heating = **77 sec**
Isolation = **3.00 min**
Instrument = **ARGUS-VI-D**
Preferred Age = Undefined
Age Classification = Undefined
IGSN = **IESRS0117**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyandesite**
Lat-Lon = **37°17.5'S - 12°39.5'W**
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**

Awful. Too little material loaded, not enough gas for such a young sample.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau						
Cannot Calculate						
Total Fusion Age		0.03520 ± 0.00215 ± 6.11%	**116.3 ± 7.1 ± 6.12%**		14	0.233 ± 0.001
			Full External Error ± 7.6			
			Analytical Error ± 7.1			
Normal Isochron						
Cannot Calculate						
Inverse Isochron						
Cannot Calculate						





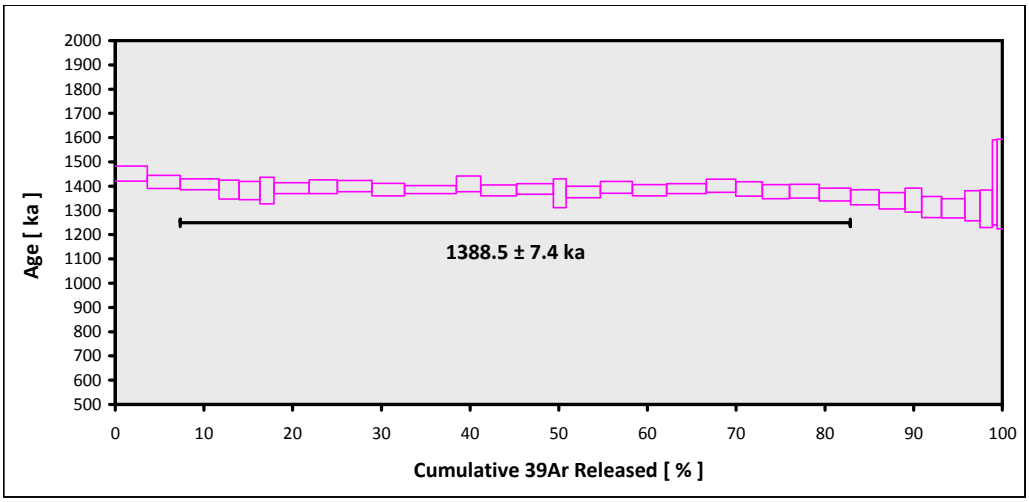
EXP#15D30810 > BM.64767 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A18-15) > Incremental Heating > Susan Schnur

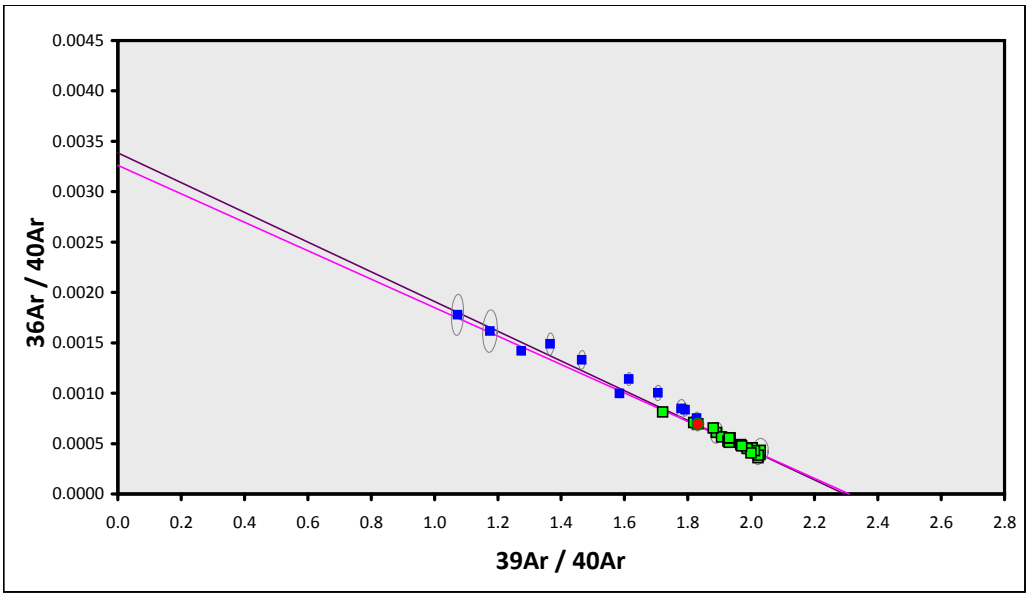
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.64767**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1A18-15)**
Position = **X: 0 | Y: 0 | Z/H: 30.6 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.91700 ± 0.01596**
FCT-NM J-value = **0.00176263 ± 0.00000316**
Air Shot 40Ar/36Ar = **304.0500 ± 0.5442**
Air Shot MDF = **0.99296082 ± 0.00072256 (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 = **IESRS0118**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Basalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Slow drop off at high-T but rest of plateau is within error. Good.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.43580 ± 0.00172	**1388.5 ± 7.4**	0.65	75.56	0.613 ± 0.045
		± 0.39%	**± 0.53%**	88%	22	
		Full External Error	± 32.2	1.62	2σ Confidence Limit	
		Analytical Error	± 5.5	1.0000	Error Magnification	
Total Fusion Age		0.43391 ± 0.00171	**1382.5 ± 7.3**		33	0.372 ± 0.004
		± 0.39%	**± 0.53%**			
		Full External Error	± 32.1			
		Analytical Error	± 5.4			
Normal Isochron	**304.91 ± 24.81**	0.43304 ± 0.00670	**1379.7 ± 21.9**	0.64	75.56	
No Convergence	**± 8.14%**	± 1.55%	**± 1.59%**	88%	22	
		Full External Error	± 38.1	1.63	2σ Confidence Limit	
		Analytical Error	± 21.4	1.0000	Error Magnification	
Inverse Isochron	**306.56 ± 24.80**	0.43294 ± 0.00660	**1379.4 ± 21.6**	0.65	75.56	
	± 8.09%	± 1.52%	**± 1.57%**	88%	22	
		Full External Error	± 37.9	1.63	2σ Confidence Limit	
		Analytical Error	± 21.0	1.0000	Error Magnification	
				13%	Spreading Factor	





OSU Argon Geochronology Lab
CEOAS Oregon State University, Corvallis, USA

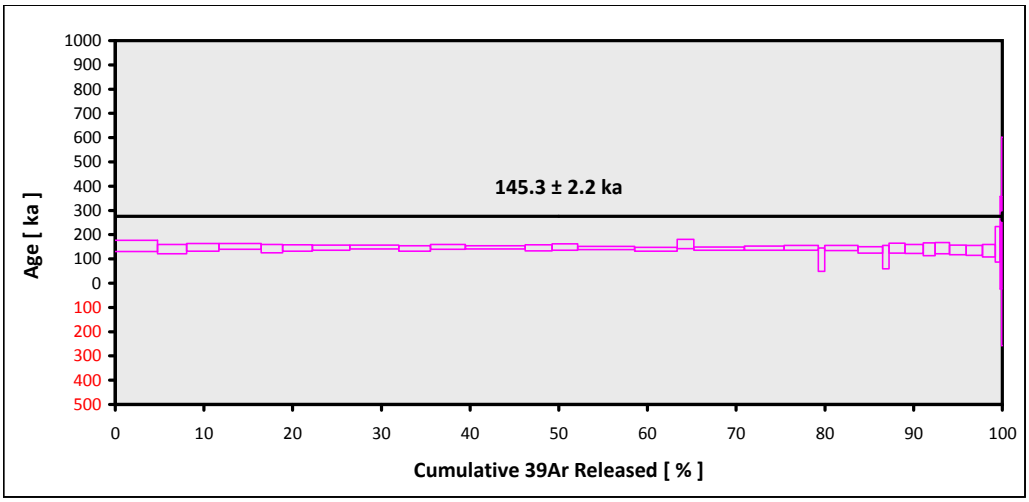
EXP#15D30881 > JM84-N-2 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B2-15) > Incremental Heating > Susan Schnur

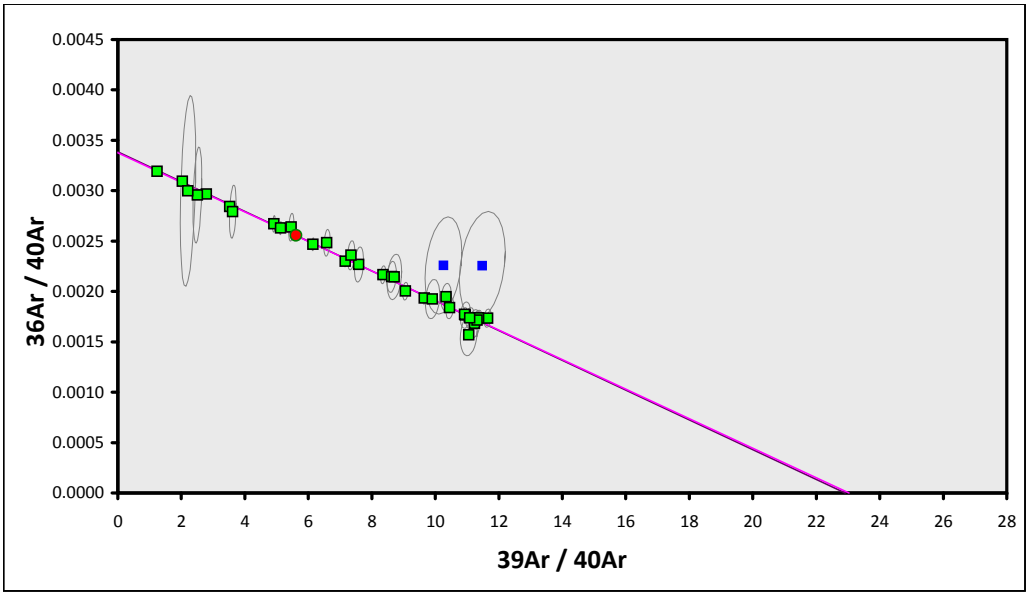
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-N-2**
Material = **Groundmass**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B2-15)**
Position = **X: 0 | Y: 0 | Z/H: 3.85 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.53393 ± 0.01493**
FCT-NM J-value = **0.00184175 ± 0.00000322**
Air Shot 40Ar/36Ar = **304.0460 ± 0.5534**
Air Shot MDF = **0.99296402 ± 0.00072699 (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 = **IESRS0119**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyte**
Lat-Lon = **37°25.3'S - 12°28.6'W**
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**

Two small blips that need to be excluded, but otherwise good.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.04364 ± 0.00063 (± 1.45%)	**145.3 ± 2.2 (± 1.50%)**	0.51	98.53	6.5 ± 1.2
		Full External Error ± 3.9		99%	31	
		Analytical Error ± 2.1		1.52	2σ Confidence Limit	
				1.0000	Error Magnification	
Total Fusion Age		0.04354 ± 0.00077 (± 1.76%)	**145.0 ± 2.6 (± 1.80%)**		33	8.8 ± 0.7
		Full External Error ± 4.2				
		Analytical Error ± 2.6				
Normal Isochron	**296.32 ± 2.05 (± 0.69%)**	0.04334 ± 0.00087 (± 2.01%)	**144.4 ± 2.9 (± 2.04%)**	0.50	98.53	
		Full External Error ± 4.4		99%	31	
		Analytical Error ± 2.9		1.53	2σ Confidence Limit	
				1.0000	Error Magnification	
Inverse Isochron	**296.28 ± 2.05 (± 0.69%)**	0.04342 ± 0.00087 (± 2.01%)	**144.6 ± 2.9 (± 2.04%)**	0.51	98.53	
		Full External Error ± 4.4		99%	31	
		Analytical Error ± 2.9		1.53	2σ Confidence Limit	
				1.0000	Error Magnification	
				45%	Spreading Factor	





OSU Argon Geochronology Lab
CEOAS Oregon State University, Corvallis, USA

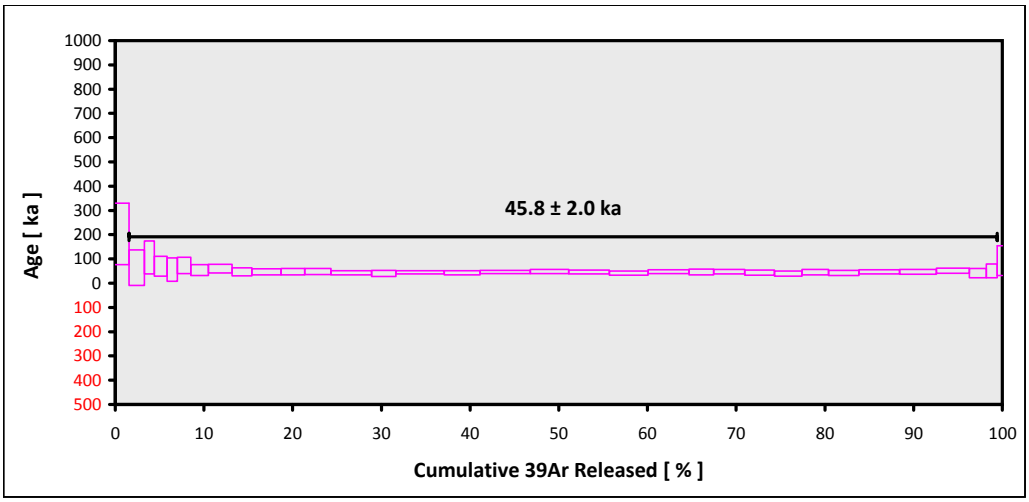
EXP#15D30927 > JM84-N-4 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B4-15) > Incremental Heating > Susan Schnur

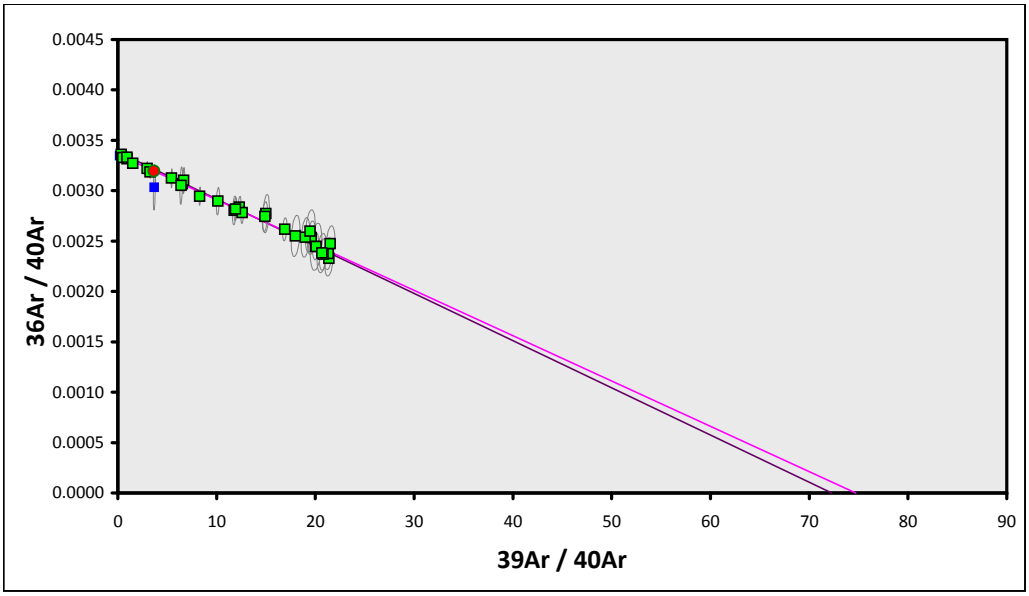
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-N-4**
Material = **Groundmass**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B4-15)**
Position = **X: 0 | Y: 0 | Z/H: 8.14 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.57731 ± 0.01492**
FCT-NM J-value = **0.00183244 ± 0.00000319**
Air Shot 40Ar/36Ar = **304.0530 ± 0.5534**
Air Shot MDF = **0.99295842 ± 0.00072697 (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 = **IESRS0120**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyandesite**
Lat-Lon = **37°25.0'S - 12°28.6'W**
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**

Good plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.01383 ± 0.00059	**45.8 ± 2.0**	0.61	97.87	2.57 ± 0.41
		± 4.29%	**± 4.30%**	95%	31	
		Full External Error ± 2.2		1.52	2σ Confidence Limit	
		Analytical Error ± 2.0		1.0000	Error Magnification	
Total Fusion Age		0.01528 ± 0.00099	**50.6 ± 3.3**		33	3.78 ± 0.13
		± 6.48%	**± 6.49%**			
		Full External Error ± 3.5				
		Analytical Error ± 3.3				
Normal Isochron	**297.49 ± 1.44**	0.01335 ± 0.00068	**44.2 ± 2.3**	0.37	97.87	
	± 0.48%	± 5.10%	**± 5.11%**	100%	31	
		Full External Error ± 2.5		1.53	2σ Confidence Limit	
		Analytical Error ± 2.3		1.0000	Error Magnification	
Inverse Isochron	**297.49 ± 1.44**	0.01339 ± 0.00068	**44.4 ± 2.3**	0.36	97.87	
	± 0.48%	± 5.07%	**± 5.08%**	100%	31	
		Full External Error ± 2.5		1.53	2σ Confidence Limit	
		Analytical Error ± 2.2		1.0000	Error Magnification	
				28%	Spreading Factor	





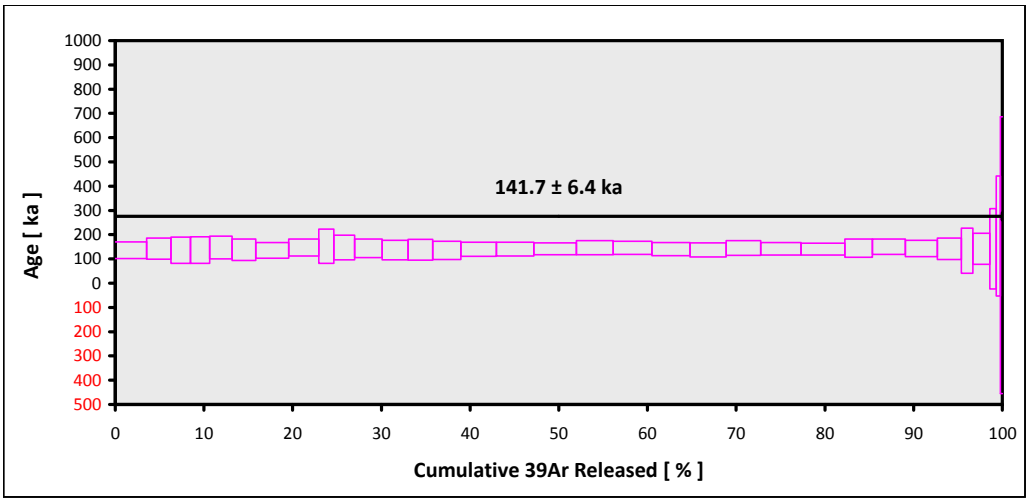
EXP#15D30973 > BM.1927,1252(72) > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B9-15) > Incremental Heating > Susan Schnur

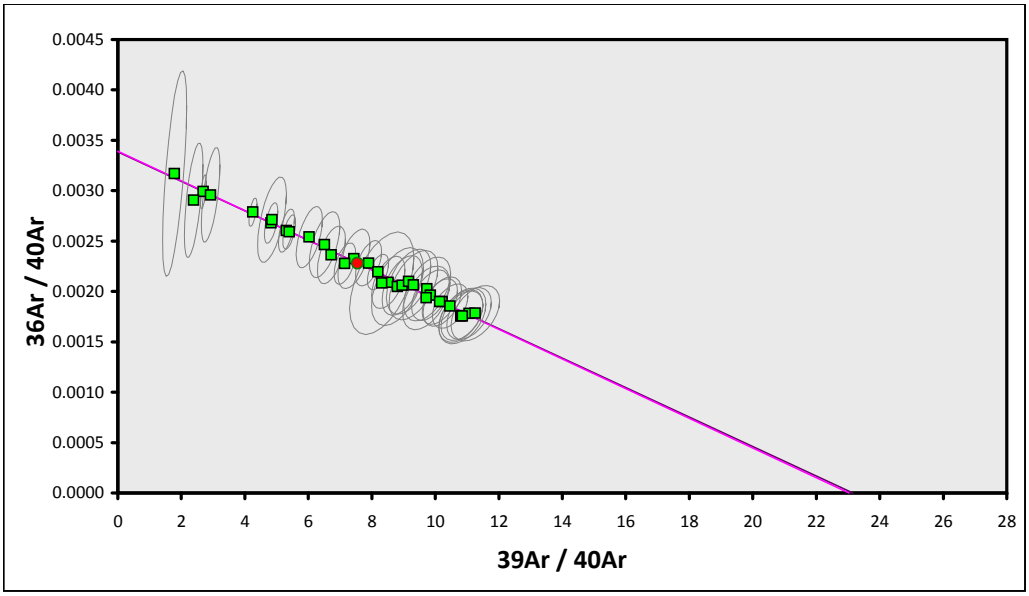
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1927,1252(72)**
Material = **Groundmass**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B9-15)**
Position = **X: 0 | Y: 0 | Z/H: 14.96 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.66256 ± 0.01490**
FCT-NM J-value = **0.00181440 ± 0.00000312**
Air Shot 40Ar/36Ar = **304.0350 ± 0.5503**
Air Shot MDF = **0.99297282 ± 0.00072554 (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 = **IESRS0121**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Basalt**
Lat-Lon = **37°25.7'S - 12°28.4'W**
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**

Good plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.04320 ± 0.00194	**141.7 ± 6.4**	0.05	100.00	0.29 ± 0.07
Overestimated		± 4.48%	**± 4.49%**	100%	33	
		Full External Error	± 7.1	1.50	2σ Confidence Limit	
		Analytical Error	± 6.4	1.0000	Error Magnification	
Total Fusion Age		0.04323 ± 0.00208	**141.8 ± 6.9**		33	2.68 ± 0.07
		± 4.82%	**± 4.83%**			
		Full External Error	± 7.6			
		Analytical Error	± 6.8			
Normal Isochron	**294.73 ± 12.47**	0.04337 ± 0.00385	**142.3 ± 12.6**	0.05	100.00	
Overestimated	**± 4.23%**	± 8.88%	**± 8.89%**	100%	33	
		Full External Error	± 13.0	1.51	2σ Confidence Limit	
		Analytical Error	± 12.6	1.0000	Error Magnification	
Inverse Isochron	**294.76 ± 12.47**	0.04341 ± 0.00384	**142.4 ± 12.6**	0.06	100.00	
Overestimated	**± 4.23%**	± 8.84%	**± 8.85%**	100%	33	
		Full External Error	± 13.0	1.51	2σ Confidence Limit	
		Analytical Error	± 12.6	1.0000	Error Magnification	
				41%	Spreading Factor	





OSU Argon Geochronology Lab
CEOAS Oregon State University, Corvallis, USA

EXP#15D31044 > BM.1962,128(396) > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B12-15) > Incremental Heating > Susan Schnur

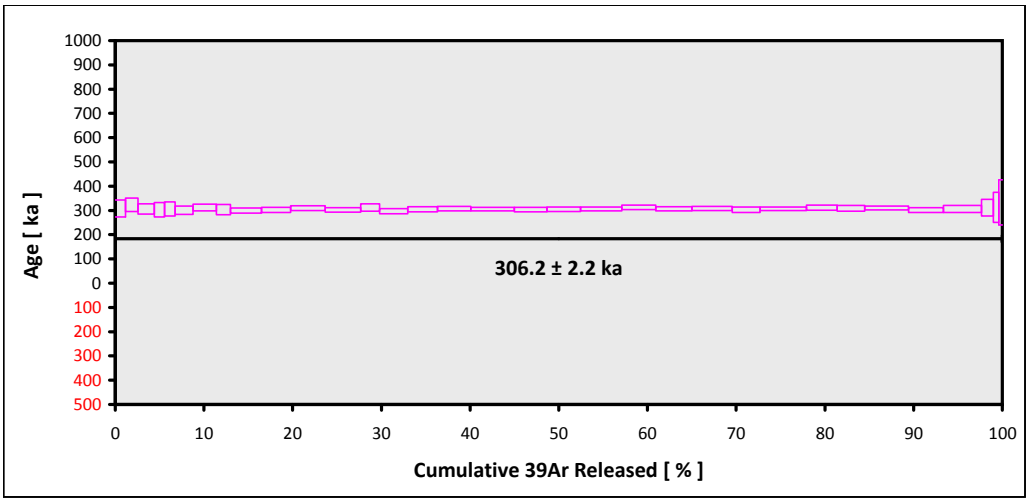
Information on Analysis and Constants Used in Calculations

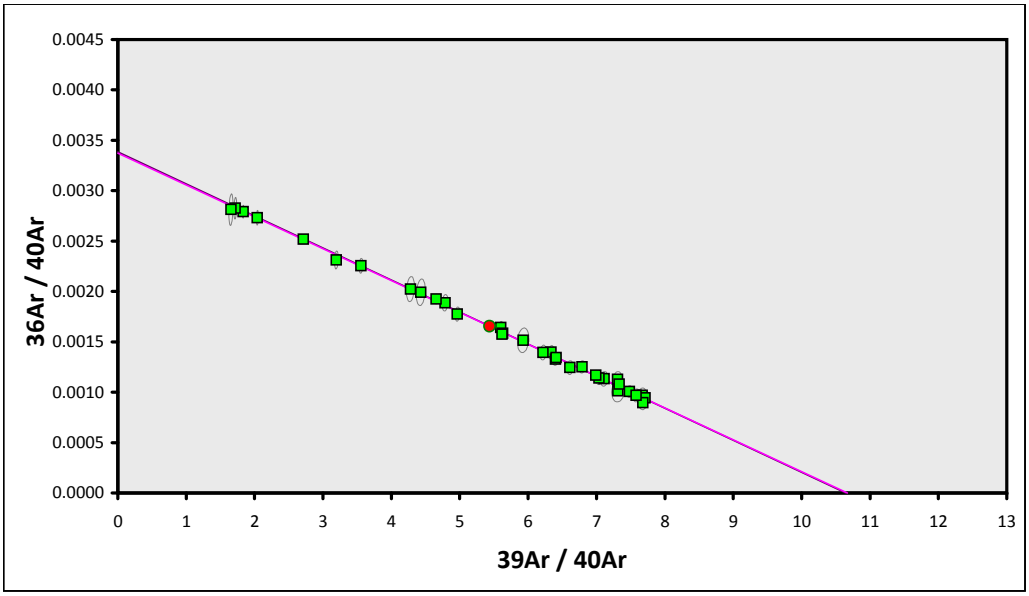
Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1962,128(396)**
Material = **Groundmass**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B12-15)**
Position = **X: 0 | Y: 0 | Z/H: 18.71 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.71795 ± 0.01491**
FCT-NM J-value = **0.00180288 ± 0.00000308**
Air Shot 40Ar/36Ar = **304.0340 ± 0.5594**
Air Shot MDF = **0.99297362 ± 0.00072999 (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 = **IESRS0122**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyte**
Lat-Lon = **37°25.0'S - 12°28.6'W**
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**

Good plateau.

Results

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.09392 ± 0.00060 (± 0.64%)	**306.2 ± 2.2 (± 0.72%)**	0.49 99% 1.50 1.0000	100.00 33 2σ Confidence Limit Error Magnification	0.49 ± 0.08
		Full External Error ± 7.3				
		Analytical Error ± 2.0				
Total Fusion Age		0.09400 ± 0.00067 (± 0.71%)	**306.4 ± 2.4 (± 0.79%)**		33	3.31 ± 0.10
		Full External Error ± 7.3				
		Analytical Error ± 2.2				
Normal Isochron	**296.45 ± 3.44 (± 1.16%)**	0.09363 ± 0.00100 (± 1.07%)	**305.2 ± 3.4 (± 1.12%)**	0.49 99% 1.51 1.0000	100.00 33 2σ Confidence Limit Error Magnification	
		Full External Error ± 7.7				
		Analytical Error ± 3.3				
Inverse Isochron	**296.40 ± 3.43 (± 1.16%)**	0.09371 ± 0.00100 (± 1.06%)	**305.5 ± 3.4 (± 1.12%)**	0.49 99% 1.51 1.0000 57%	100.00 33 2σ Confidence Limit Error Magnification Spreading Factor	
		Full External Error ± 7.7				
		Analytical Error ± 3.2				





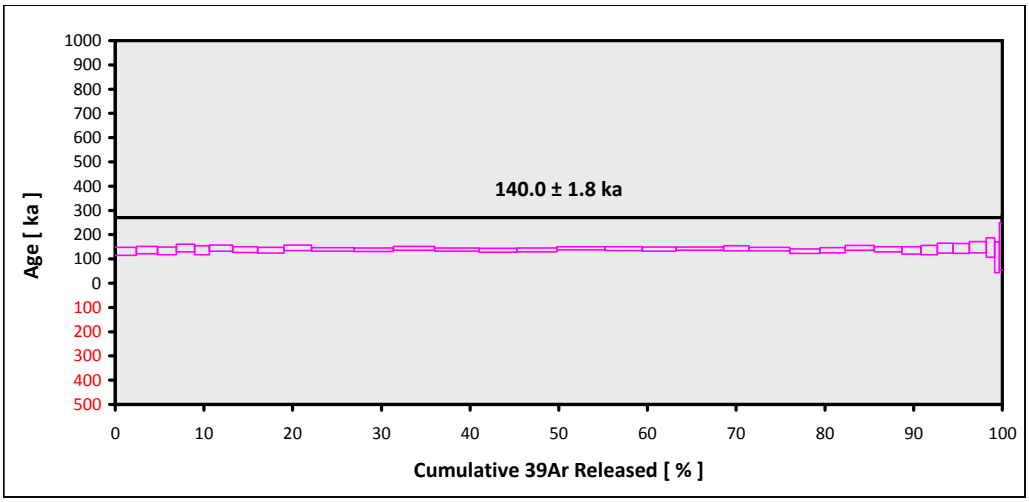
EXP#15D31090 > BM.1962,128(409) > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > NIGHTINGALE ISLAND
15-OSU-01 (1B16-15) > Incremental Heating > Susan Schnur

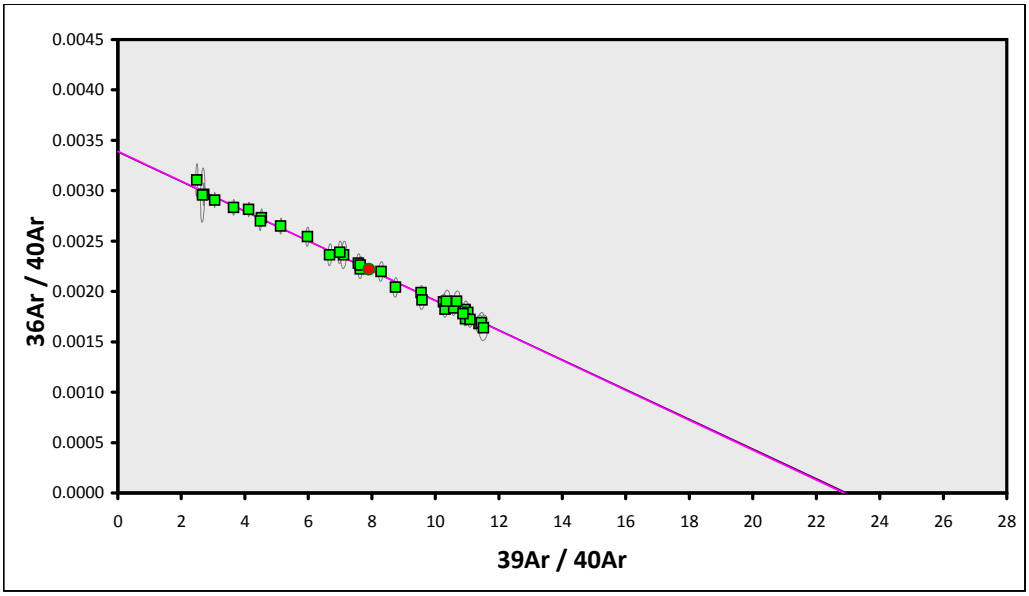
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1962,128(409)**
Material = **Groundmass**
Location = **Nightingale Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B16-15)**
Position = **X: 0 | Y: 0 | Z/H: 26.11 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.84500 ± 0.01486**
FCT-NM J-value = **0.00177698 ± 0.00000299**
Air Shot 40Ar/36Ar = **304.0320 ± 0.5594**
Air Shot MDF = **0.99297522 ± 0.00073000 (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 = **IESRS0123**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachybasalt**
Lat-Lon = **37°25.0'S - 12°28.6'W**
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**

Good plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.04356 ± 0.00055 (± 1.27%)	**140.0 ± 1.8 (± 1.32%)**	0.57	100.00	0.41 ± 0.08
				98%	33	
		Full External Error ± 3.7		1.50	2σ Confidence Limit	
		Analytical Error ± 1.8		1.0000	Error Magnification	
Total Fusion Age		0.04350 ± 0.00061 (± 1.41%)	**139.8 ± 2.0 (± 1.45%)**		33	3.75 ± 0.13
		Full External Error ± 3.8				
		Analytical Error ± 2.0				
Normal Isochron	**294.76 ± 4.15 (± 1.41%)**	0.04366 ± 0.00107 (± 2.45%)	**140.3 ± 3.5 (± 2.48%)**	0.59	100.00	
				97%	33	
		Full External Error ± 4.7		1.51	2σ Confidence Limit	
		Analytical Error ± 3.4		1.0000	Error Magnification	
Inverse Isochron	**294.79 ± 4.14 (± 1.41%)**	0.04372 ± 0.00107 (± 2.44%)	**140.5 ± 3.5 (± 2.46%)**	0.59	100.00	
				97%	33	
		Full External Error ± 4.7		1.51	2σ Confidence Limit	
		Analytical Error ± 3.4		1.0000	Error Magnification	
				40%	Spreading Factor	





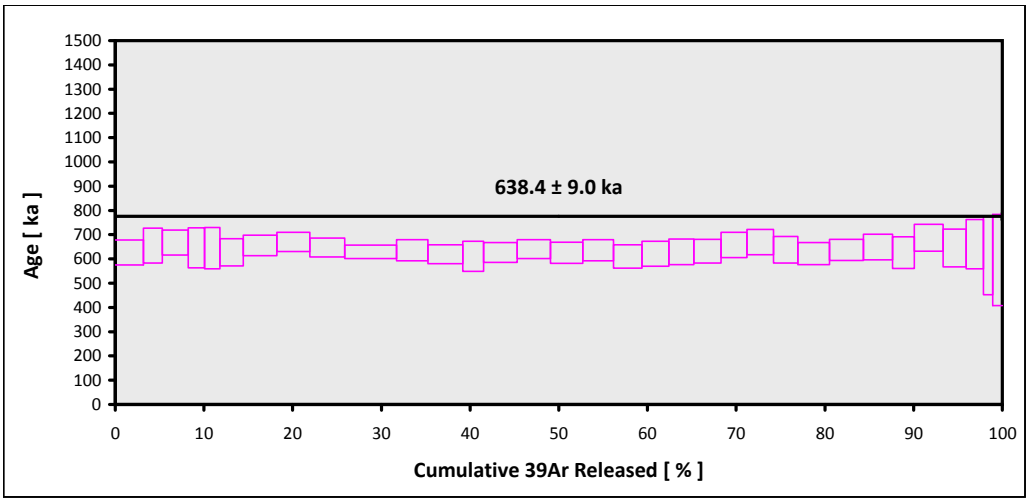
EXP#15D31136 > JM84-IN-4 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A7-15) > Incremental Heating > Susan Schnur

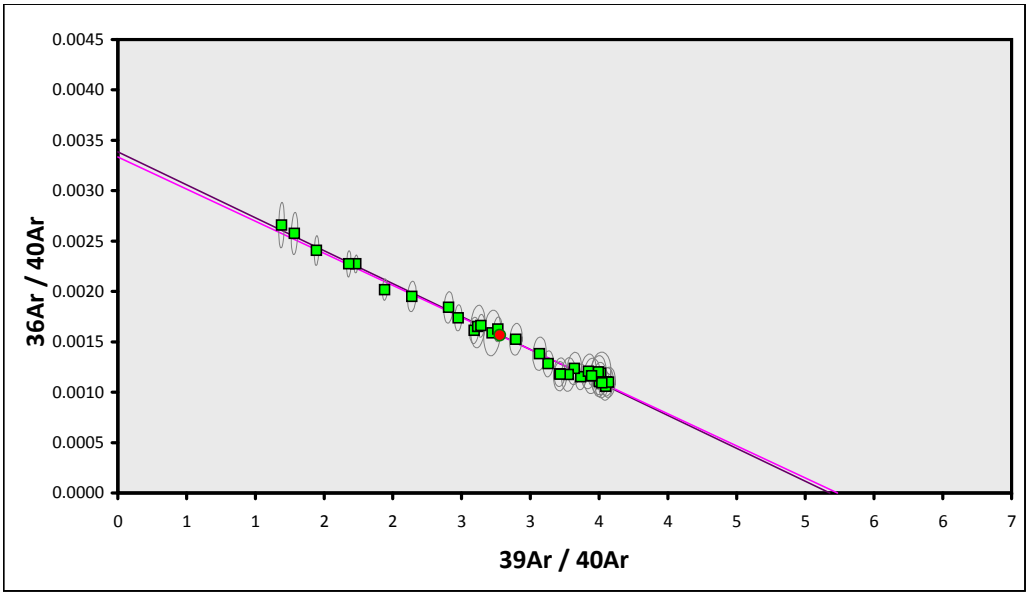
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-4**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1A7-15)**
Position = **X: 0 | Y: 0 | Z/H: 11.56 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.59680 ± 0.01599**
FCT-NM J-value = **0.00182828 ± 0.00000340**
Air Shot 40Ar/36Ar = **304.0080 ± 0.5503**
Air Shot MDF = **0.99299443 ± 0.00072560 (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 = **IESRS0124**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Alkali Basalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Good plateau.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.19313 ± 0.00262 ± 1.35%	**638.4 ± 9.0 ± 1.40%**	0.52	100.00	0.031 ± 0.008
				99%	33	
		Full External Error ± 17.0		1.50	2σ Confidence Limit	
		Analytical Error ± 8.6		1.0000	Error Magnification	
Total Fusion Age		0.19329 ± 0.00279 ± 1.45%	**638.9 ± 9.5 ± 1.49%**		33	0.241 ± 0.003
		Full External Error ± 17.3				
		Analytical Error ± 9.2				
Normal Isochron	**299.88 ± 9.23 ± 3.08%**	0.19050 ± 0.00517 ± 2.71%	**629.7 ± 17.2 ± 2.74%**	0.49	100.00	
				99%	33	
		Full External Error ± 22.4		1.51	2σ Confidence Limit	
		Analytical Error ± 17.1		1.0000	Error Magnification	
Inverse Isochron	**299.88 ± 9.29 ± 3.10%**	0.19105 ± 0.00517 ± 2.71%	**631.5 ± 17.3 ± 2.73%**	0.51	100.00	
				99%	33	
		Full External Error ± 22.4		1.51	2σ Confidence Limit	
		Analytical Error ± 17.1		1.0000	Error Magnification	
				45%	Spreading Factor	





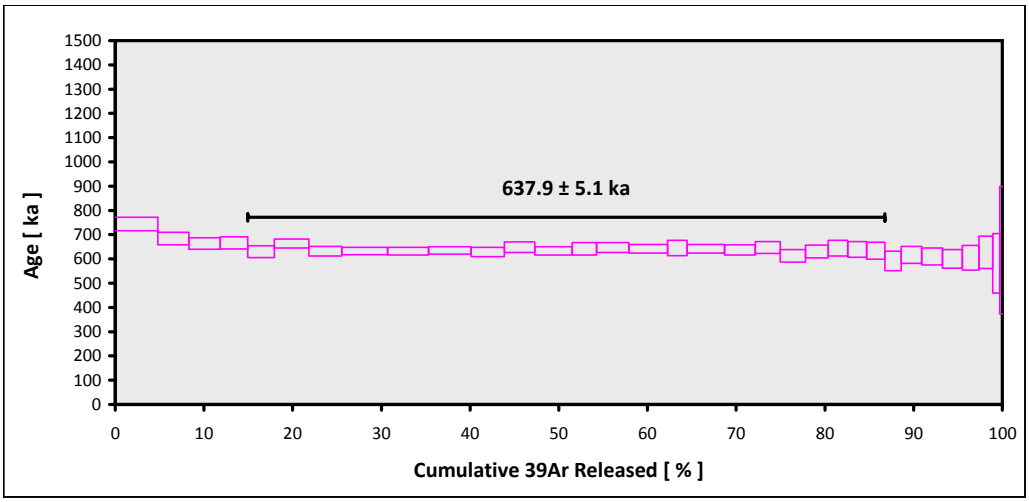
EXP#15D31207 > JM84-IN-9 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A8-15) > Incremental Heating > Susan Schnur

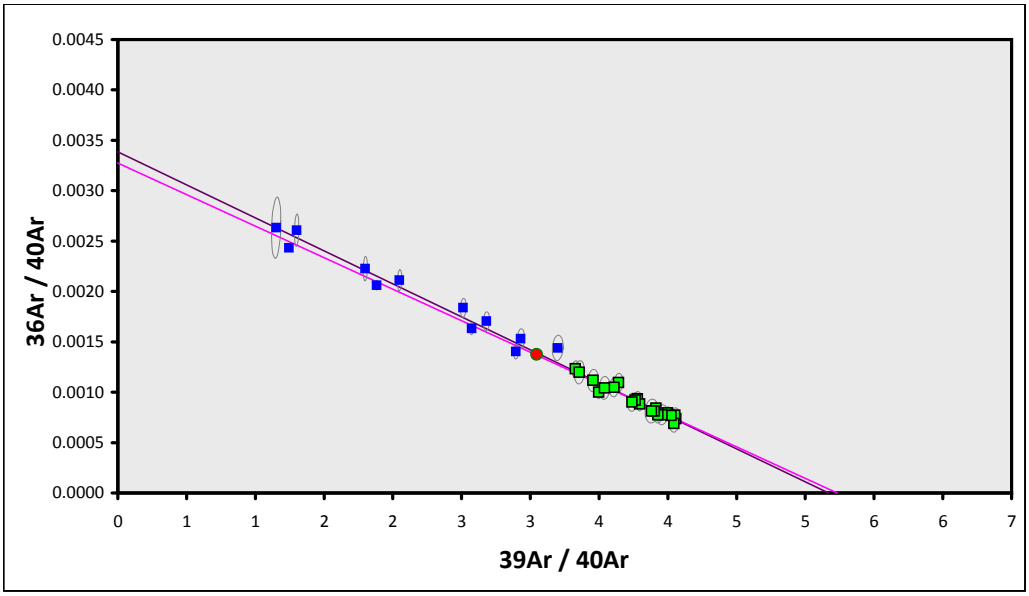
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-9**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1A8-15)**
Position = **X: 0 | Y: 0 | Z/H: 13.17 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.61775 ± 0.01603**
FCT-NM J-value = **0.00182384 ± 0.00000339**
Air Shot 40Ar/36Ar = **304.0200 ± 0.5533**
Air Shot MDF = **0.99298483 ± 0.00072705 (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 = **IESRS0125**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachybasalt**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Plateau dips at end, but acceptable.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.19344 ± 0.00138 (± 0.71%)	**637.9 ± 5.1 (± 0.80%)**	0.89	71.83	1.044 ± 0.028
		Full External Error ± 15.3		60%	21	
		Analytical Error ± 4.5		1.63	2σ Confidence Limit	
				1.0000	Error Magnification	
Total Fusion Age		0.19483 ± 0.00140 (± 0.72%)	**642.4 ± 5.2 (± 0.81%)**		33	0.553 ± 0.007
		Full External Error ± 15.4				
		Analytical Error ± 4.6				
Normal Isochron	**301.51 ± 28.28 (± 9.38%)**	0.19177 ± 0.00664 (± 3.46%)	**632.4 ± 22.0 (± 3.48%)**	0.89	71.83	
		Full External Error ± 26.2		59%	21	
		Analytical Error ± 21.9		1.65	2σ Confidence Limit	
				1.0000	Error Magnification	
Inverse Isochron	**305.43 ± 29.27 (± 9.58%)**	0.19117 ± 0.00664 (± 3.47%)	**630.4 ± 22.0 (± 3.49%)**	0.91	71.83	
		Full External Error ± 26.2		57%	21	
		Analytical Error ± 21.9		1.65	2σ Confidence Limit	
				1.0000	Error Magnification	
				14%	Spreading Factor	





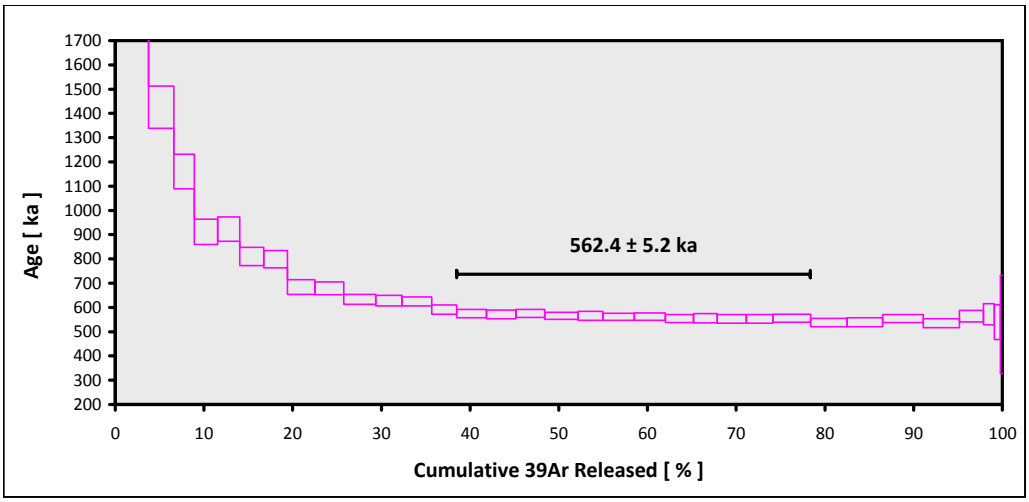
EXP#15D31253 > JM84-IN-11 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > INACCESSIBLE ISLAND
15-OSU-01 (1A12-15) > Incremental Heating > Susan Schnur

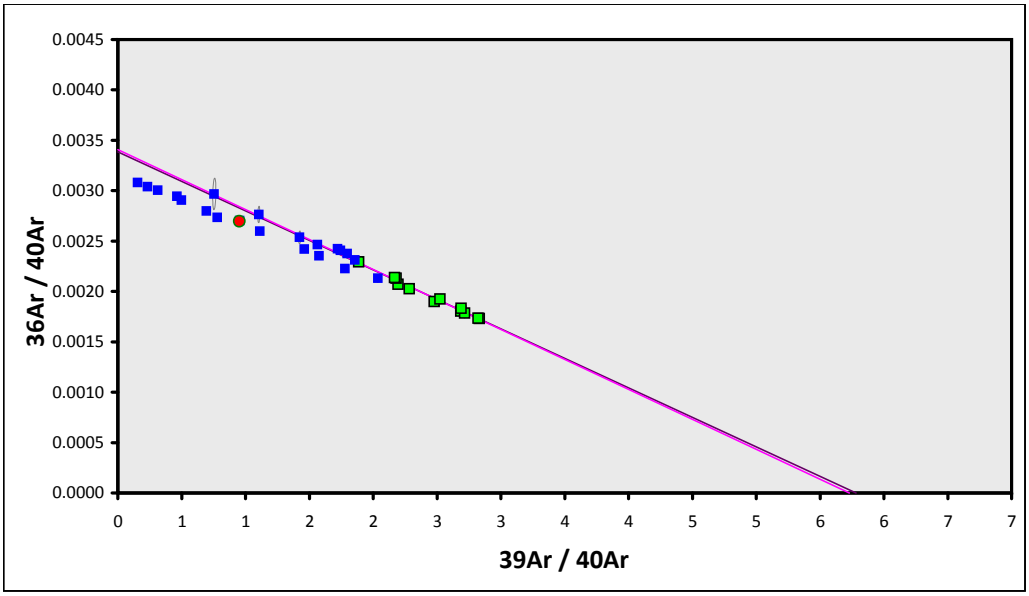
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **JM84-IN-11**
Material = **Groundmass**
Location = **Inaccessible Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1A12-15)**
Position = **X: 0 | Y: 0 | Z/H: 21.15 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **8.73830 ± 0.01599**
FCT-NM J-value = **0.00179868 ± 0.00000329**
Air Shot 40Ar/36Ar = **304.0170 ± 0.5472**
Air Shot MDF = **0.99298723 ± 0.00072410 (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 = **IESRS0126**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Trachyte**
Lat-Lon = **37°17.7'S - 12°42.3'W**
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**

Plateau gently dipping, recoil pattern at low T, similar to the BT.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.17294 ± 0.00147	**562.4 ± 5.2**	0.95	39.88	4.98 ± 0.45
		± 0.85%	**± 0.93%**	49%	12	
		Full External Error ± 13.7		1.85	2σ Confidence Limit	
		Analytical Error ± 4.8		1.0000	Error Magnification	
Total Fusion Age		0.21281 ± 0.00209	**692.1 ± 7.3**		33	5.24 ± 0.31
		± 0.98%	**± 1.05%**			
		Full External Error ± 17.2				
		Analytical Error ± 6.8				
Normal Isochron	**293.47 ± 7.96**	0.17451 ± 0.00656	**567.5 ± 21.4**	1.01	39.88	
	± 2.71%	± 3.76%	**± 3.77%**	43%	12	
		Full External Error ± 25.0		1.89	2σ Confidence Limit	
		Analytical Error ± 21.3		1.0056	Error Magnification	
Inverse Isochron	**293.55 ± 8.04**	0.17451 ± 0.00658	**567.5 ± 21.5**	1.02	39.88	
	± 2.74%	± 3.77%	**± 3.79%**	42%	12	
		Full External Error ± 25.0		1.89	2σ Confidence Limit	
		Analytical Error ± 21.4		1.0113	Error Magnification	
				16%	Spreading Factor	





EXP#15D31299 > BM.1927,1252(41) MILD NITRIC LCH > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > MIDDLE ISLAND
15-OSU-01 (1B20-15) > Incremental Heating > Susan Schnur

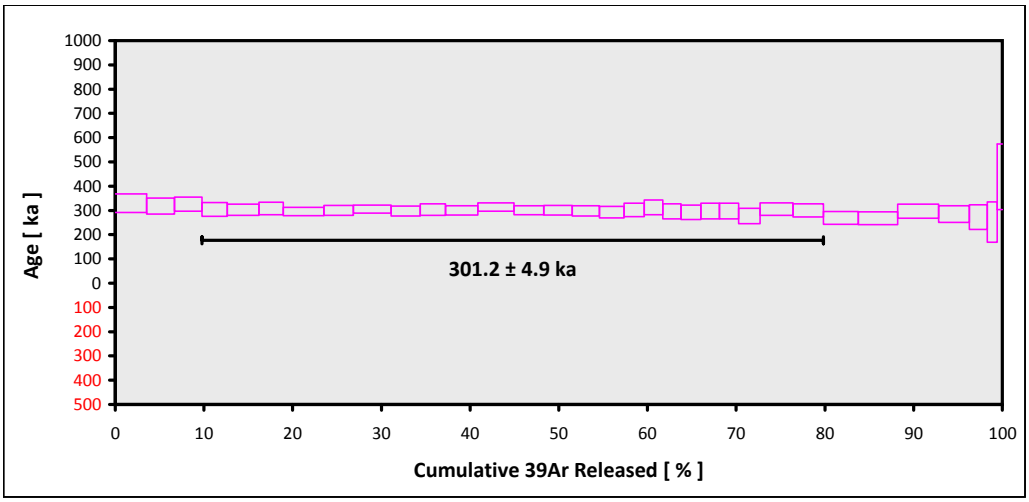
Information on Analysis and Constants Used in Calculations

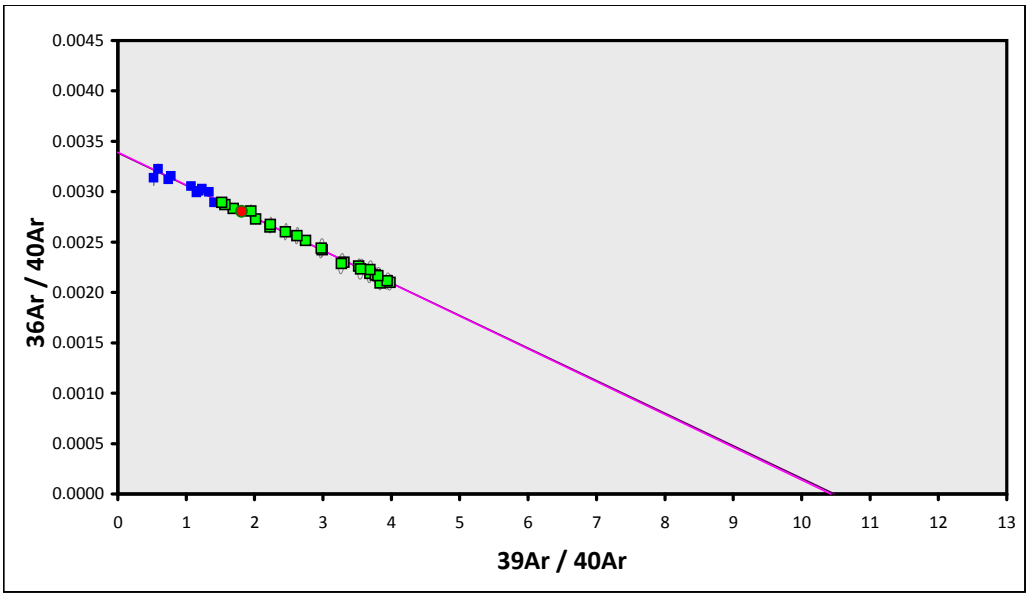
Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1927,1252(41) MILD NITRIC LCH**
Material = **Groundmass**
Location = **Middle Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B20-15)**
Position = **X: 0 | Y: 0 | Z/H: 33.76 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **9.00108 ± 0.01494**
FCT-NM J-value = **0.00174617 ± 0.00000290**
Air Shot 40Ar/36Ar = **303.9940 ± 0.5350**
Air Shot MDF = **0.99300564 ± 0.00071831 (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 = **IESRS0127**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Tephrite**
Lat-Lon = **37°24.6'S - 12°29.0'W**
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**

Good analysis but not needed as fully-leached sample is also good.

Results

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.09540 ± 0.00151	**301.2 ± 4.9**	0.35	70.03	0.93 ± 0.16
		± 1.58%	**± 1.62%**	100%	23	
		Full External Error	± 8.4	1.60	2σ Confidence Limit	
		Analytical Error	± 4.8	1.0000	Error Magnification	
Total Fusion Age		0.09484 ± 0.00154	**299.4 ± 5.0**		33	0.86 ± 0.01
		± 1.63%	**± 1.66%**			
		Full External Error	± 8.4			
		Analytical Error	± 4.9			
Normal Isochron	**294.89 ± 3.84**	0.09587 ± 0.00362	**302.7 ± 11.5**	0.36	70.03	
	± 1.30%	± 3.77%	**± 3.79%**	100%	23	
		Full External Error	± 13.3	1.62	2σ Confidence Limit	
		Analytical Error	± 11.4	1.0000	Error Magnification	
Inverse Isochron	**294.88 ± 3.84**	0.09593 ± 0.00360	**302.9 ± 11.4**	0.36	70.03	
	± 1.30%	± 3.76%	**± 3.77%**	100%	23	
		Full External Error	± 13.3	1.62	2σ Confidence Limit	
		Analytical Error	± 11.4	1.0000	Error Magnification	
				24%	Spreading Factor	





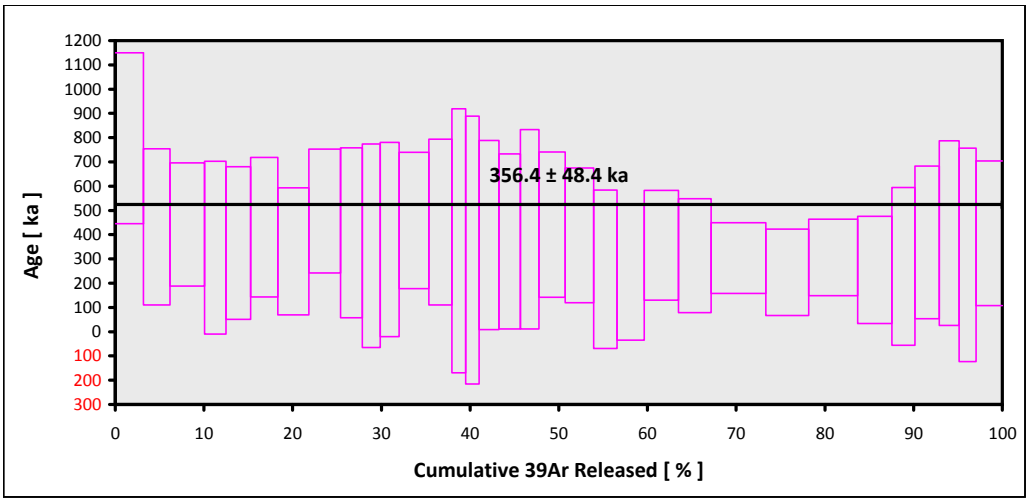
EXP#15D31370 > BM.1927 1252(41) UNLEACHED > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > MIDDLE ISLAND
15-OSU-01 (1B21-15) > Incremental Heating > Susan Schnur

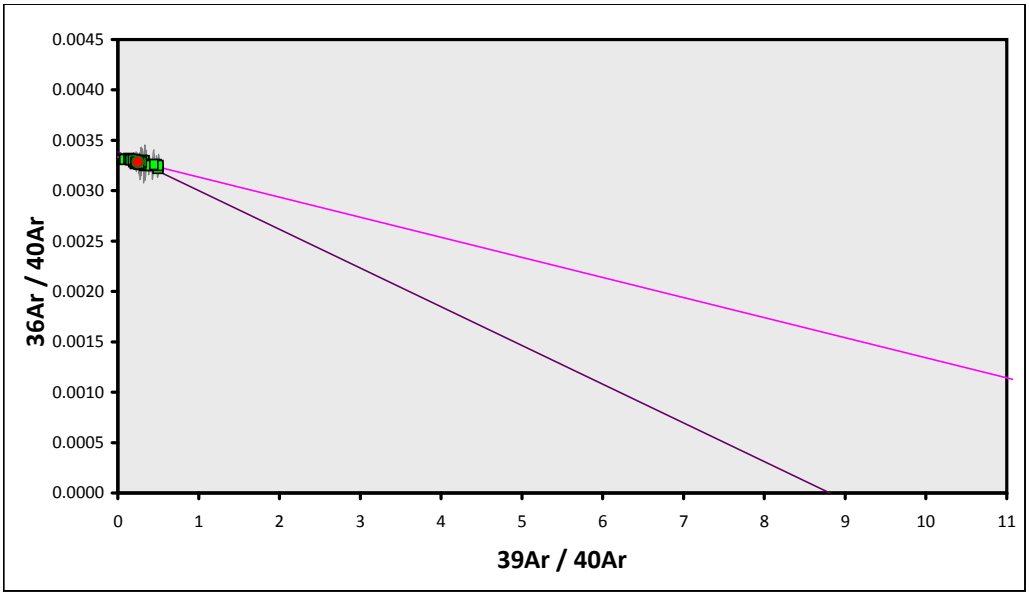
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **BM.1927 1252(41) UNLEACHED**
Material = **Groundmass**
Location = **Middle Island**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-01 (1B21-15)**
Position = **X: 0 | Y: 0 | Z/H: 35.95 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **9.05039 ± 0.01493**
FCT-NM J-value = **0.00173665 ± 0.00000287**
Air Shot 40Ar/36Ar = **303.9870 ± 0.5411**
Air Shot MDF = **0.99301124 ± 0.00072124 (LIN)**
Experiment Type = **Incremental Heating**
Extraction Method = **Bulk Laser Heating**
Heating = **77 sec**
Isolation = **3.00 min**
Instrument = **ARGUS-VI-D**
Preferred Age = Undefined
Age Classification = Undefined
IGSN = **IESRS0128**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Tephrite**
Lat-Lon = **37°24.6'S - 12°29.0'W**
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**

Huge error, plateau and isochron very different.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.11351 ± 0.01541 ± 13.57%	**356.4 ± 48.4 ± 13.57%**	0.47	100.00	0.51 ± 0.10
			Full External Error ± 49.0	100%	33	
			Analytical Error ± 48.4	1.50	2σ Confidence Limit	
				1.0000	Error Magnification	
Total Fusion Age		0.11896 ± 0.01622 ± 13.63%	**373.6 ± 50.9 ± 13.63%**		33	1.35 ± 0.06
			Full External Error ± 51.6			
			Analytical Error ± 50.9			
Normal Isochron	**300.01 ± 2.69 ± 0.90%**	0.05964 ± 0.03565 ± 59.78%	**187.3 ± 112.0 ± 59.78%**	0.11	100.00	
Overestimated			Full External Error ± 112.0	100%	33	
			Analytical Error ± 112.0	1.51	2σ Confidence Limit	
				1.0000	Error Magnification	
Inverse Isochron	**300.01 ± 2.69 ± 0.90%**	0.05976 ± 0.03110 ± 52.04%	**187.7 ± 97.7 ± 52.04%**	0.11	100.00	
Overestimated			Full External Error ± 97.8	100%	33	
			Analytical Error ± 97.7	1.51	2σ Confidence Limit	
				1.0000	Error Magnification	
				2%	Spreading Factor	





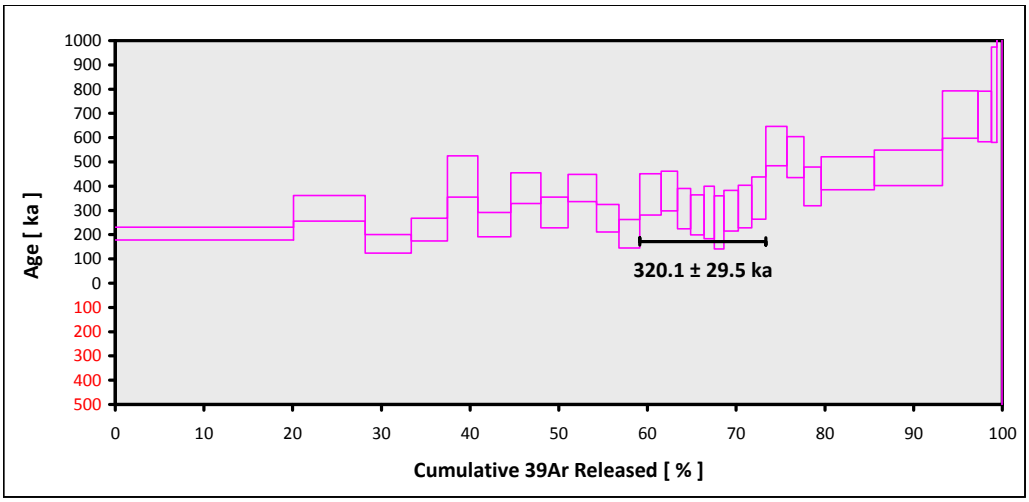
EXP#16D02767 > AG51-2-1 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > TRISTAN DA CUNHA
15-OSU-07 (7B22-15) > Incremental Heating > Susan Schnur

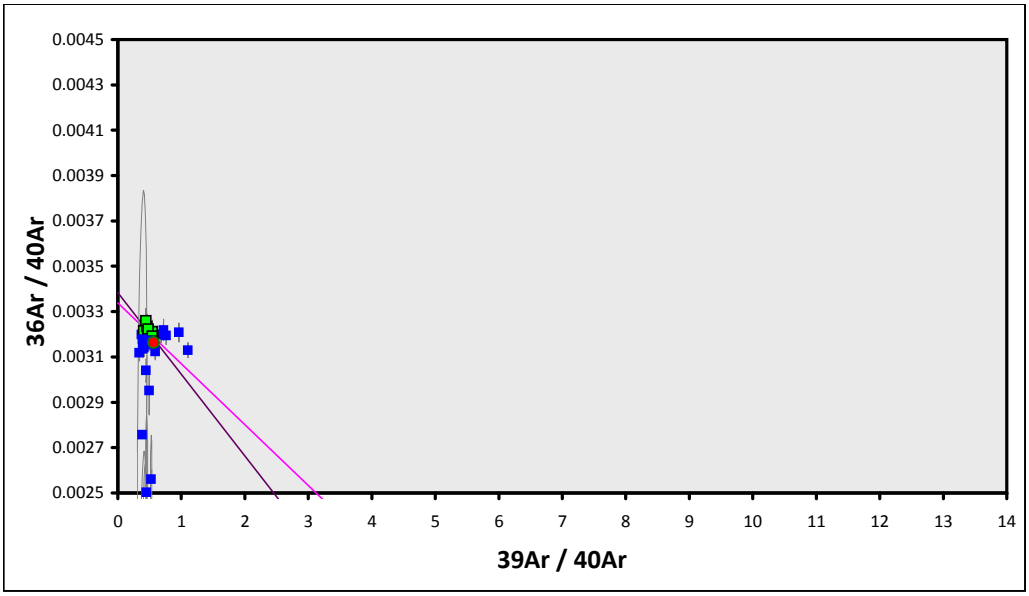
Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **AG51-2-1**
Material = **Groundmass**
Location = **Tristan da Cunha**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-07 (7B22-15)**
Position = **X: 0 | Y: 0 | Z/H: 36.98 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **9.44449 ± 0.01284**
FCT-NM J-value = **0.00166419 ± 0.00000226**
Air Shot 40Ar/36Ar = **304.0950 ± 0.4075**
Air Shot MDF = **0.99292482 ± 0.00066226 (LIN)**
Experiment Type = **Incremental Heating**
Extraction Method = **Bulk Laser Heating**
Heating = **77 sec**
Isolation = **3.00 min**
Instrument = **ARGUS-VI-D**
Preferred Age = Undefined
Age Classification = Undefined
IGSN = **IESRS0129**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Basalt**
Lat-Lon = **37°11.2'S - 12°24.7'W**
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**

Plateau seems to be at low-T, excess Ar signature, adjust 40/36 to fit.

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.10638 ± 0.00979	**320.1 ± 29.5**	0.87	14.19	0.507 ± 0.090
		± 9.20%	**± 9.20%**	54%	9	
		Full External Error	± 30.3	2.00	2σ Confidence Limit	
		Analytical Error	± 29.4	1.0000	Error Magnification	
Total Fusion Age		0.11577 ± 0.00445	**348.4 ± 13.4**		33	0.256 ± 0.000
		± 3.85%	**± 3.86%**			
		Full External Error	± 15.6			
		Analytical Error	± 13.4			
Normal Isochron	**299.36 ± 13.83**	0.08105 ± 0.09044	**243.9 ± 272.1**	0.94	14.19	
	± 4.62%	± 111.58%	**± 111.57%**	47%	9	
		Full External Error	± 272.2	2.07	2σ Confidence Limit	
		Analytical Error	± 272.1	1.0000	Error Magnification	
Inverse Isochron	**299.49 ± 13.85**	0.08043 ± 0.05020	**242.0 ± 151.0**	0.94	14.19	
Clustered Points	**± 4.62%**	± 62.42%	**± 62.41%**	47%	9	
		Full External Error	± 151.1	2.07	2σ Confidence Limit	
		Analytical Error	± 151.0	1.0000	Error Magnification	
				1%	Spreading Factor	





OSU Argon Geochronology Lab
CEOAS Oregon State University, Corvallis, USA

EXP#16D08601 > AG51-2-1 > Groundmass > TRISTAN (13-INT-04C)
WALVIS RIDGE > TRISTAN DA CUNHA
15-OSU-07 (7B22-15) > Incremental Heating > Susan Schnur

Information on Analysis and Constants Used in Calculations

Project = **TRISTAN (13-INT-04C)**
Sample = **AG51-2-1**
Material = **Groundmass**
Location = **Tristan da Cunha**
Region = **Walvis Ridge**
Analyst = **Susan Schnur**
Irradiation = **15-OSU-07 (7B22-15)**
Position = **X: 0 | Y: 0 | Z/H: 36.98 mm**
FCT-NM Age = **28.201 ± 0.023 Ma**
FCT-NM Reference = **Kuiper et al (2008)**
FCT-NM 40Ar/39Ar Ratio = **9.44449 ± 0.01284**
FCT-NM J-value = **0.00166419 ± 0.00000226**
Air Shot 40Ar/36Ar = **304.7430 ± 0.4175**
Air Shot MDF = **0.99240758 ± 0.00066447 (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 = **IESRS0130**
Rock Class = **Igneous>Volcanic>Mafic**
Lithology = **Basalt**
Lat-Lon = **37°11.2'S - 12°24.7'W**
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**

Plateau uneven, but ages concordant. Rather glassy, Cl spike at end. Isochron too atmospheric. We prefer this analysis over the previous analysis (identical except 8 rather than 15 mg was loaded).

Results	40(a)/36(a) ± 2σ	40(r)/39(k) ± 2σ	Age ± 2σ (ka)	MSWD	39Ar(k) (%,n)	K/Ca ± 2σ
Age Plateau		0.01916 ± 0.00401 (± 20.95%)	**57.7 ± 12.1 (± 20.95%)**	1.55	52.24	0.743 ± 0.086
			Full External Error ± 12.1	6%	20	
			Analytical Error ± 12.1	1.65	2σ Confidence Limit	
				1.2441	Error Magnification	
Total Fusion Age		0.07210 ± 0.00494 (± 6.86%)	**216.9 ± 14.9 (± 6.86%)**		33	0.383 ± 0.001
			Full External Error ± 15.7			
			Analytical Error ± 14.9			
Normal Isochron	**295.84 ± 5.72 (± 1.93%)**	0.01698 ± 0.03534 (± 208.16%)	**51.1 ± 106.4 (± 208.15%)**	1.62	52.24	
			Full External Error ± 106.4	5%	20	
			Analytical Error ± 106.4	1.67	2σ Confidence Limit	
				1.2727	Error Magnification	
Inverse Isochron Clustered Points	**295.81 ± 5.76 (± 1.95%)**	0.01727 ± 0.00787 (± 45.57%)	**52.0 ± 23.7 (± 45.57%)**	1.63	52.24	
			Full External Error ± 23.7	4%	20	
			Analytical Error ± 23.7	1.67	2σ Confidence Limit	
				1.2782	Error Magnification	
				1%	Spreading Factor