

Table S1e: Step-degassing Ne analyses of Pit 16 quartz samples.

Sample name	Aliquot	Aliquot weight (g)	Heating temperature (deg C)	Heating time (hr)	Total ²⁰ Ne released ¹ (10 ³ atoms)	Total ²¹ Ne released ² (10 ³ atoms)	Total ²² Ne released ³ (10 ³ atoms)	²¹ Ne / ²⁰ Ne ⁴ (10 ⁻³)	²² Ne / ²⁰ Ne ⁴ (10 ⁻³)	Cosmogenic ²¹ Ne ⁵ This heating step (10 ³ atoms g ⁻¹)	Cosmogenic ²¹ Ne as % of ²¹ Ne released in this heating step	Percent of total cosmogenic ²¹ Ne released in this step	Total cosmogenic ²¹ Ne (10 ³ atoms g ⁻¹)	
MC-PIT16-0-0	a	0.1424	400	0.25	4.733 +/- 0.035	15.530 +/- 0.311	482.004 +/- 5.958	3.315 +/- 0.044	101.5 +/- 0.7	11.87 +/- 1.46	11	25	48.4 +/- 3.8	
			850	0.25	10.144 +/- 0.071	34.518 +/- 0.694	1024.613 +/- 12.017	3.423 +/- 0.048	101.1 +/- 0.4	33.17 +/- 3.41	14	69		
			1100	0.2	1.403 +/- 0.021	4.639 +/- 0.114	145.658 +/- 2.064	3.301 +/- 0.084	103.6 +/- 1.8	3.38 +/- 0.84	10	7		
	b	0.1426	400	0.25	5.046 +/- 0.031	16.276 +/- 0.292	509.221 +/- 3.525	3.229 +/- 0.049	99.9 +/- 0.7	9.57 +/- 1.73	8	22		44.2 +/- 2.7
			850	0.25	10.203 +/- 0.036	34.614 +/- 0.42	1017.035 +/- 4.991	3.388 +/- 0.027	99.0 +/- 0.4	30.83 +/- 1.94	13	70		
			1100	0.2	1.092 +/- 0.016	3.777 +/- 0.096	114.592 +/- 1.701	3.456 +/- 0.096	104.0 +/- 2.1	3.82 +/- 0.74	14	9		
MC-PIT16-1-7	a	0.1485	400	0.25	0.517 +/- 0.012	5.202 +/- 0.136	59.685 +/- 1.306	10.172 +/- 0.305	115.2 +/- 3.3	24.83 +/- 0.95	71	31	80.8 +/- 1.9	
			850	0.25	2.308 +/- 0.020	14.645 +/- 0.298	239.674 +/- 3.279	6.381 +/- 0.097	104.0 +/- 1.0	53.37 +/- 1.58	54	66		
			1100	0.2	0.344 +/- 0.009	1.405 +/- 0.079	35.973 +/- 1.056	4.072 +/- 0.247	104.6 +/- 4.0	2.62 +/- 0.56	28	3		
	b	0.1567	400	0.25	0.678 +/- 0.011	6.297 +/- 0.194	74.586 +/- 1.194	9.311 +/- 0.299	108.4 +/- 2.3	27.48 +/- 1.26	68	34		81.2 +/- 2.1
			850	0.25	2.514 +/- 0.022	15.097 +/- 0.256	259.093 +/- 2.068	5.999 +/- 0.099	102.3 +/- 1.1	48.94 +/- 1.65	51	60		
			1100	0.2	0.337 +/- 0.007	1.736 +/- 0.067	36.703 +/- 1.131	5.153 +/- 0.217	108.0 +/- 3.9	4.73 +/- 0.45	43	6		
MC-PIT16-10-14	a	0.1472	400	0.25	0.571 +/- 0.010	5.573 +/- 0.16	63.764 +/- 1.346	9.866 +/- 0.289	111.4 +/- 2.7	26.49 +/- 1.11	70	31	85.5 +/- 2.5	
			850	0.25	2.421 +/- 0.039	15.078 +/- 0.299	255.789 +/- 3.560	6.259 +/- 0.124	105.7 +/- 1.8	53.96 +/- 2.19	53	63		
			1100	0.2	0.314 +/- 0.007	1.671 +/- 0.075	35.477 +/- 1.107	5.293 +/- 0.260	112.8 +/- 4.3	5.06 +/- 0.53	45	6		
	b	0.1482	400	0.25	0.573 +/- 0.010	5.724 +/- 0.161	64.765 +/- 1.078	10.021 +/- 0.305	111.5 +/- 2.6	27.29 +/- 1.11	71	32		85.2 +/- 1.8
			850	0.25	2.342 +/- 0.015	14.734 +/- 0.217	244.560 +/- 2.287	6.285 +/- 0.080	103.7 +/- 1.1	52.75 +/- 1.31	53	62		
			1100	0.2	0.329 +/- 0.010	1.731 +/- 0.077	36.253 +/- 1.044	5.267 +/- 0.278	109.3 +/- 4.5	5.13 +/- 0.56	44	6		
MC-PIT16-20-24	a	0.1569	400	0.25	0.538 +/- 0.013	4.930 +/- 0.123	59.791 +/- 1.336	9.233 +/- 0.278	111.2 +/- 3.3	21.35 +/- 0.82	68	27	79.3 +/- 2.2	
			850	0.25	2.100 +/- 0.021	14.551 +/- 0.342	221.719 +/- 3.360	6.963 +/- 0.138	105.7 +/- 1.3	53.77 +/- 1.94	58	68		
			1100	0.2	0.201 +/- 0.007	1.243 +/- 0.077	21.550 +/- 0.842	6.156 +/- 0.427	107.2 +/- 5.5	4.15 +/- 0.51	52	5		
	b	0.1593	400	0.25	0.544 +/- 0.008	5.018 +/- 0.131	61.481 +/- 1.153	9.250 +/- 0.246	111.4 +/- 2.5	21.47 +/- 0.84	68	28		77.0 +/- 1.9
			850	0.25	2.094 +/- 0.011	14.503 +/- 0.284	219.614 +/- 2.390	6.918 +/- 0.123	104.1 +/- 1.2	52.24 +/- 1.65	57	68		
			1100	0.2	0.289 +/- 0.008	1.382 +/- 0.073	31.116 +/- 1.152	4.785 +/- 0.277	106.7 +/- 4.8	3.32 +/- 0.48	38	4		
MC-PIT16-29-30	a	0.1565	400	0.25	0.534 +/- 0.009	5.659 +/- 0.159	58.548 +/- 1.199	10.684 +/- 0.300	109.8 +/- 2.5	26.16 +/- 1.04	72	32	81.1 +/- 1.9	
			850	0.25	2.352 +/- 0.020	14.968 +/- 0.301	246.195 +/- 3.523	6.390 +/- 0.095	104.7 +/- 1.1	51.75 +/- 1.50	54	64		
			1100	0.2	0.280 +/- 0.007	1.317 +/- 0.057	29.454 +/- 1.063	4.680 +/- 0.228	105.2 +/- 4.6	3.14 +/- 0.39	37	4		
	b	0.1444	400	0.25	0.548 +/- 0.007	5.095 +/- 0.137	61.322 +/- 1.377	9.327 +/- 0.250	110.3 +/- 2.7	24.15 +/- 0.96	68	32		76.5 +/- 2.1
			850	0.25	2.031 +/- 0.015	13.149 +/- 0.272	214.010 +/- 1.851	6.478 +/- 0.122	104.6 +/- 0.9	49.68 +/- 1.77	55	65		
			1100	0.2	0.280 +/- 0.008	1.219 +/- 0.076	29.635 +/- 0.983	4.357 +/- 0.296	104.9 +/- 4.6	2.71 +/- 0.55	32	4		

¹ Computed by comparison to ²⁰Ne signal in air pipettes. 1-sigma uncertainty includes measurement uncertainty of ²⁰Ne signal in this analysis and the reproducibility of the air pipette signal

² Computed by comparison to ²¹Ne signal in air pipettes. 1-sigma uncertainty includes measurement uncertainty of ²¹Ne signal in this analysis and the reproducibility of the air pipette signal

³ Computed by comparison to ²²Ne signal in air pipettes. 1-sigma uncertainty includes measurement uncertainty of ²²Ne signal in this analysis and the reproducibility of the air pipette signal

⁴ Isotope ratio measured internally during each analysis; does not involve normalization to the Ne isotope signals in the air pipettes.

⁵ Computed by comparison of ²⁰Ne or ²¹Ne signal to air pipettes, whichever is more precise. Assumes that Ne in sample is a binary mixture of atmospheric and cosmogenic Ne.