

Table S1d: Step-degassing Ne analyses of Pit 15 quartz samples.

Sample name	Aliquot	Aliquot weight (g)	Heating temperature (deg C)	Heating time (hr)	Total ²⁰ Ne released ¹ (10 ¹³ atoms)	Total ²¹ Ne released ² (10 ¹³ atoms)	Total ²² Ne released ³ (10 ¹³ atoms)	²¹ Ne / ²⁰ Ne ⁴ (10 ⁻³)	²² Ne / ²⁰ Ne ⁴ (10 ⁻³)	Cosmogenic ²¹ Ne ⁵ This heating step (10 ¹³ 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 ¹³ atoms g ⁻¹)
MC-PIT15-0-0	a	0.1494	400	0.25	2.291 +/- 0.035	10.286 +/- 0.229	239.970 +/- 4.216	4.496 +/- 0.068	102.4 +/- 1.2	23.66 +/- 1.10	34	30	79.7 +/- 2.4
			850	0.25	7.236 +/- 0.088	28.808 +/- 0.598	0.000 +/- 0.000	3.977 +/- 0.041	0.0 +/- 0.0	49.49 +/- 2.08	26	62	
			1100	0.2	1.192 +/- 0.017	4.516 +/- 0.112	124.772 +/- 4.031	3.771 +/- 0.083	99.0 +/- 2.5	6.50 +/- 0.67	22	8	
	b	0.1409	400	0.25	1.900 +/- 0.019	8.314 +/- 0.205	196.312 +/- 1.699	4.341 +/- 0.100	102.8 +/- 1.1	18.69 +/- 1.36	32	25	
			850	0.25	7.042 +/- 0.049	28.033 +/- 0.395	717.572 +/- 4.583	3.982 +/- 0.043	101.7 +/- 0.5	51.31 +/- 2.20	26	68	
			1100	0.2	1.050 +/- 0.014	3.778 +/- 0.131	112.490 +/- 1.408	3.631 +/- 0.128	106.6 +/- 1.7	5.03 +/- 0.96	19	7	
MC-PIT15-2-6	a	0.1096	400	0.25	1.261 +/- 0.021	8.907 +/- 0.249	136.324 +/- 2.802	7.079 +/- 0.169	105.6 +/- 1.9	47.56 +/- 2.10	59	32	149.2 +/- 3.7
			850	0.25	2.481 +/- 0.036	17.695 +/- 0.398	273.891 +/- 6.242	7.123 +/- 0.110	105.3 +/- 1.4	94.62 +/- 2.84	59	63	
			1100	0.2	0.429 +/- 0.014	2.060 +/- 0.108	46.618 +/- 2.420	4.750 +/- 0.279	102.8 +/- 5.6	7.03 +/- 1.12	37	5	
	b	0.1293	400	0.25	1.595 +/- 0.012	13.614 +/- 0.331	174.533 +/- 2.027	8.455 +/- 0.186	108.5 +/- 1.3	68.04 +/- 2.35	65	39	
			850	0.25	2.888 +/- 0.026	21.537 +/- 0.367	305.213 +/- 3.081	7.452 +/- 0.115	105.5 +/- 1.1	100.74 +/- 2.73	60	58	
			1100	0.2	0.202 +/- 0.006	1.278 +/- 0.094	22.675 +/- 1.056	6.391 +/- 0.506	111.8 +/- 6.2	5.29 +/- 0.74	54	3	
c	0.0237	400	0.25	0.421 +/- 0.009	5.457 +/- 0.158	49.172 +/- 1.040	12.976 +/- 0.429	115.8 +/- 3.3	178.33 +/- 6.77	77	61		
		850	0.25	0.455 +/- 0.010	3.989 +/- 0.123	50.277 +/- 1.307	8.826 +/- 0.318	109.8 +/- 3.7	111.90 +/- 5.34	66	39		
		1100	0.2	0.019 +/- 0.007	0.065 +/- 0.033	2.059 +/- 0.775	3.377 +/- 2.058	105.7 +/- 53.9	-	0	0		
MC-PIT15-19-28	a	0.1594	400	0.25	0.613 +/- 0.015	6.878 +/- 0.197	67.685 +/- 2.287	11.246 +/- 0.355	107.5 +/- 3.9	31.90 +/- 1.28	74	35	90.5 +/- 2.2
			850	0.25	2.833 +/- 0.038	17.318 +/- 0.385	307.737 +/- 6.935	6.103 +/- 0.085	103.4 +/- 1.2	56.10 +/- 1.69	52	62	
			1100	0.2	0.261 +/- 0.012	1.170 +/- 0.084	28.730 +/- 2.008	4.436 +/- 0.373	104.2 +/- 8.3	2.51 +/- 0.58	34	3	
	b	0.1537	400	0.25	0.544 +/- 0.009	5.946 +/- 0.142	63.783 +/- 1.251	10.829 +/- 0.287	116.3 +/- 2.9	28.32 +/- 0.95	73	31	
			850	0.25	2.864 +/- 0.027	17.831 +/- 0.346	295.533 +/- 2.615	6.193 +/- 0.106	102.9 +/- 1.0	60.50 +/- 2.06	52	67	
			1100	0.2	0.253 +/- 0.007	0.985 +/- 0.067	26.233 +/- 0.939	3.928 +/- 0.284	103.8 +/- 4.6	1.55 +/- 0.46	24	2	
MC-PIT15-40-46	a	0.1391	400	0.25	1.953 +/- 0.031	10.151 +/- 0.231	^s	5.212 +/- 0.087	^s	31.75 +/- 1.32	44	31	102.5 +/- 2.7
			850	0.25	3.825 +/- 0.048	20.172 +/- 0.467	^s	5.284 +/- 0.077	^s	64.17 +/- 2.27	44	63	
			1100	0.2	0.529 +/- 0.013	2.480 +/- 0.091	^s	4.633 +/- 0.188	^s	6.60 +/- 0.71	37	6	
	b	0.1482	400	0.25	2.240 +/- 0.016	10.858 +/- 0.249	234.830 +/- 2.048	4.801 +/- 0.098	104.0 +/- 1.0	27.94 +/- 1.50	38	27	
			850	0.25	4.240 +/- 0.031	23.090 +/- 0.382	436.964 +/- 2.916	5.417 +/- 0.067	102.8 +/- 0.6	70.57 +/- 1.98	45	69	
			1100	0.2	0.478 +/- 0.009	1.978 +/- 0.091	51.357 +/- 0.999	4.166 +/- 0.200	107.5 +/- 2.7	3.91 +/- 0.65	29	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 ²²Ne signal to air pipettes, whichever is more precise. Assumes that Ne in sample is a binary mixture of atmospheric and cosmogenic Ne.

⁶ No measurement on mass 22 due to peak-centering error.