

Ne-21 measurements on Transantarctic Mountains samples: complete step-degassing results
Berkeley Geochronology Center: November, 2008

Sample name	Aliquot	Aliquot weight (g)	Heating temperature (deg C)	Heating time (hr)	Total ²⁰ Ne released ² (10 ⁹ atoms)	Total ²¹ Ne released ³ (10 ⁹ atoms)	²¹ Ne / ²⁰ Ne ⁴ (10 ⁻³)	²² Ne / ²⁰ Ne ⁴ (10 ⁻³)	Cosmogenic ²¹ Ne ⁵ This heating step (10 ⁹ 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 ⁹ atoms g ⁻¹)
RDY-011-QZH	a	0.14936	400	0.3	1.077 +/- 0.014	163.143 +/- 5.607	149.122 +/- 1.707	277.300 +/- 3.4	1057.9 +/- 18.39	97	93	1134 +/- 19
			700	0.3	0.211 +/- 0.009	12.016 +/- 0.482	55.989 +/- 2.463	162.300 +/- 9.1	76.6 +/- 3.24	95	7	
			1100	0.3	0.0493 +/- 0.008	0.215 +/- 0.117	4.307 +/- 2.439	79.200 +/- 29.9	- +/- -		0	
RDY-063-QZH	a	0.15385	400	0.3	0.6639 +/- 0.014	41.150 +/- 1.436	61.008 +/- 1.320	172.900 +/- 4.3	251.4 +/- 7.76	94	94	266.2 +/- 7.9
			700	0.3	0.1583 +/- 0.009	2.585 +/- 0.164	16.055 +/- 1.203	106.000 +/- 10.7	13.8 +/- 1.09	82	5	
			1100	0.3	0.0193 +/- 0.011	0.203 +/- 0.096	10.4 +/- 7.678	209.700 +/- 139.7	1.0 +/- 0.66	72	0	
RDY-073-QZH	a	0.14589	400	0.3	0.4481 +/- 0.010	124.233 +/- 4.471	272.69 +/- 5.115	419.200 +/- 9.1	831.5 +/- 24.58	98	88	941 +/- 25
			700	0.3	0.1309 +/- 0.008	13.633 +/- 0.596	102.396 +/- 6.526	196.700 +/- 16.7	91.1 +/- 4.11	98	10	
			1100	0.3	0.0498 +/- 0.012	2.745 +/- 0.175	54.391 +/- 13.239	120.300 +/- 36.5	17.9 +/- 1.23	95	2	
RDY-074-QZH	a	0.13438	400	0.3	0.4258 +/- 0.010	63.420 +/- 2.266	146.462 +/- 2.791	274.700 +/- 7.0	456.4 +/- 13.53	97	96	473 +/- 14
			700	0.3	0.249 +/- 0.008	2.972 +/- 0.185	11.726 +/- 0.698	112.600 +/- 6.2	16.7 +/- 1.39	76	4	
			1100	0.3	-0.0098 +/- 0.014	0.394 +/- 0.097	-39.863 +/- 58.712	-245.000 +/- 381.7	- +/- -		0	
RDY-113-PGN	a	0.13426	400	0.3	0.5551 +/- 0.019	103.008 +/- 2.733	182.07 +/- 6.376	308.300 +/- 11.2	757.8 +/- 20.44	99	89	848 +/- 21
			700	0.3	0.2019 +/- 0.009	12.426 +/- 0.418	60.373 +/- 2.941	178.100 +/- 10.8	88.4 +/- 3.13	96	10	
			1100	0.3	0.0506 +/- 0.013	0.421 +/- 0.109	8.188 +/- 2.971	82.400 +/- 35.3	2.0 +/- 0.87	65	0	
RDY-114-PGN	a	0.12715	400	0.3	0.5552 +/- 0.010	26.623 +/- 0.792	47.049 +/- 0.882	148.000 +/- 3.6	193.2 +/- 5.24	92	85	226.2 +/- 5.7
			700	0.3	0.2742 +/- 0.008	4.380 +/- 0.238	15.71 +/- 0.834	112.100 +/- 5.9	28.2 +/- 1.89	82	12	
			1100	0.3	0.0416 +/- 0.008	0.728 +/- 0.122	17.195 +/- 4.220	109.100 +/- 36.0	4.8 +/- 0.98	83	2	
RDY-118-PGN	a	0.13024	400	0.3	0.7875 +/- 0.014	65.900 +/- 1.725	82.095 +/- 1.541	200.100 +/- 4.3	480.3 +/- 12.69	95	88	544 +/- 13
			700	0.3	0.7059 +/- 0.017	9.955 +/- 0.384	13.871 +/- 0.465	116.000 +/- 3.5	59.4 +/- 2.88	78	11	
			1100	0.3	0.1248 +/- 0.011	0.939 +/- 0.123	7.405 +/- 1.146	93.100 +/- 14.7	4.4 +/- 0.98	61	1	
RDY-139-STR	a	0.12675	400	0.4	1.4931 +/- 0.022	15.494 +/- 0.444	10.181 +/- 0.198	112.200 +/- 2.1	85.4 +/- 2.65	70	43	199.2 +/- 3.6
			700	0.4	1.611 +/- 0.016	17.060 +/- 0.471	10.415 +/- 0.143	108.000 +/- 1.6	95.1 +/- 2.06	71	48	
			1100	0.4	0.5174 +/- 0.015	3.897 +/- 0.174	7.408 +/- 0.344	104.900 +/- 4.1	18.7 +/- 1.42	61	9	
RDY-164-TLL	a	0.12279	400	0.3	0.6462 +/- 0.011	106.372 +/- 2.967	162.182 +/- 1.901	286.500 +/- 4.7	841.1 +/- 17.13	97	97	866 +/- 17
			700	0.3	0.1917 +/- 0.007	2.538 +/- 0.163	13.056 +/- 0.892	97.100 +/- 8.7	16.1 +/- 1.35	78	2	
			1100	0.3	0.0594 +/- 0.005	1.203 +/- 0.215	19.98 +/- 3.847	110.600 +/- 25.7	8.4 +/- 1.76	86	1	
RDY-165-TLL	a	0.13184	400	0.3	0.3613 +/- 0.014	51.451 +/- 1.408	140.323 +/- 5.538	262.700 +/- 10.9	383.6 +/- 10.73	98	99	387 +/- 11
			700	0.3	0.0582 +/- 0.006	0.572 +/- 0.101	9.682 +/- 1.946	83.500 +/- 24.4	3.0 +/- 0.78	70	1	
			1100	0.3	0.0065 +/- 0.007	0.025 +/- 0.11	3.865 +/- 17.314	0.800 +/- 181.6	- +/- -		0	
RDY-167-TLL	a	0.13219	400	0.3	0.6532 +/- 0.012	133.746 +/- 3.574	201.745 +/- 3.987	335.100 +/- 6.9	1000.9 +/- 27.14	99	97	1037 +/- 27
			700	0.3	0.2222 +/- 0.010	5.202 +/- 0.234	23.084 +/- 1.331	119.800 +/- 7.8	34.5 +/- 1.79	88	3	
			1100	0.3	0.1802 +/- 0.006	0.743 +/- 0.111	4.082 +/- 0.609	96.100 +/- 8.3	1.6 +/- 0.85	28	0	
PCM-042-MNZ	a	0.13787	400	0.3	0.326 +/- 0.011	81.353 +/- 2.231	246.975 +/- 8.537	389.000 +/- 14.1	585.2 +/- 16.25	99	88	669 +/- 17
			700	0.3	0.0643 +/- 0.016	10.546 +/- 0.375	162.622 +/- 40.005	334.300 +/- 85.5	75.4 +/- 2.75	99	11	
			1100	0.3	0.0036 +/- 0.010	1.124 +/- 0.116	312.369 +/- 897.154	921.300 +/- 2675.3	8.1 +/- 0.87	99	1	
PCM-105-MNZ	a	0.13389	400	0.3	0.5257 +/- 0.016	184.810 +/- 4.847	347.997 +/- 10.602	503.200 +/- 15.8	1373.8 +/- 36.35	100	82	1667 +/- 37
			700	0.3	0.1328 +/- 0.014	39.521 +/- 1.155	295.153 +/- 30.599	459.800 +/- 48.6	293.3 +/- 8.66	99	18	
			1100	0.3	-0.0008 +/- 0.011	3.086 +/- 0.198	-4062.387 +/- 61081.739	-9477.400 +/- 142510.7	- +/- -		0	

Notes:

² 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

³ 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

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

⁵ Analyses where cosmogenic ²¹Ne was not distinguishable from zero at 1 sigma are not shown. Cosmogenic ²¹Ne concentrations were calculated by normalization to either the ²⁰Ne or ²¹Ne signal in the air pipettes, depending on which method yielded better precision.