



Figure DR1. (a) Nd vs Sr isotope plots of the Fe-Mn leachates and coexisting detrital fractions. Nd and Sr isotopes of the detrital fractions are plotted on the mixing line of Aleutian/Kamchatka volcanic rocks and Alaska/Siberia continental rocks. (b) Sr isotope plot of the Fe-Mn leachates and the detrital fractions, which indicates a well correlation. (c) Nd isotope plot of the Fe-Mn leachates and the detrital fractions, showing less correlation compared to the Sr.

Table DR1. Age model for core BOW-8A

Depth (cm)	Age (yr)	Correlation	Reference
25	14400	deglacial maximum of diatom valve numbers, which can be correlated to the B-A period	Katuski and Takahashi (2005)
47	21860	^{14}C date ¹	This study
80.5	24100	planktonic foraminifera $\delta^{18}\text{O}$, MIS2/3 boundary	Lisiecki and Raymo (2005), Okada et al. (2005)
176.5	59000	planktonic foraminifera $\delta^{18}\text{O}$, MIS3/4 boundary	Lisiecki and Raymo (2005), Okada et al. (2005)
234	73900	planktonic foraminifera $\delta^{18}\text{O}$, MIS4/5 boundary	Lisiecki and Raymo (2005), Okada et al. (2005)
290.0	87000	planktonic foraminifera $\delta^{18}\text{O}$, MIS 5b	Lisiecki and Raymo (2005), Okada et al. (2005)
362.5	109000	planktonic foraminifera $\delta^{18}\text{O}$, MIS 5d	Lisiecki and Raymo (2005), Okada et al. (2005)
400.6	129800	planktonic foraminifera $\delta^{18}\text{O}$, MIS5/6 boundary	Lisiecki and Raymo (2005), Okada et al. (2005)
601.6	189600	planktonic foraminifera $\delta^{18}\text{O}$, MIS6/7 boundary	Lisiecki and Raymo (2005), Okada et al. (2005)

¹The ^{14}C date (1895 0± 100 yrs, 1s, no. 57379) for planktonic foraminifer, *Neogloboquadrina pachyderma* (sinistral), was measured by accelerator mass spectrometry (AMS) at the NSF-Arizona AMS Laboratory, University of Arizona. We converted the radiocarbon age to a calendar year with Calib5.0.1 (Stuiver and Reimer, 1993), using $\Delta\text{R} = 300 \pm 100$ yrs according to Cook et al. (2005) and adopted probability peak as a control point.

References

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Table DR2. Nd and Sr isotopic data and age model

Bow-8A Depth (cm)	Age (ka)	Fe-Mn Nd (ppm)	Fe-Mn $^{143}\text{Nd}/^{144}\text{Nd}$	%SE (10^{-4})	TIMS	εNd	$2\sigma_m$	Detrital $^{143}\text{Nd}/^{144}\text{Nd}$	%SE (10^{-4})	TIMS	εNd	$2\sigma_m$	Fe-Mn $^{87}\text{Sr}/^{86}\text{Sr}$	%SE (10^{-4})	Detrital $^{87}\text{Sr}/^{86}\text{Sr}$	%SE (10^{-4})
3	1700	0.14											0.709269	10		
9	5200	0.35	0.512590	8	Iso-T	-0.94	0.16	0.512606	7	Iso-T	-0.63	0.14	0.709184	11	0.706641	10
15	8600	0.62	0.512600	7	Iso-T	-0.74	0.14						0.709177	10		
21	12100	0.56	0.512528	8	Sector	-2.15	0.16						0.709477	11		
29	15800	0.56	0.512575	9	Iso-T	-1.23	0.18						0.709248	11		
33	17100	0.53	0.512638	12	Iso-T	0.00	0.24						0.709255	12		
39	19100	0.58	0.512675	9	Sector	0.72	0.18	0.512428	13	Iso-T	-4.10	0.26	0.709226	11	0.707988	10
57	22500	0.53	0.512634	9	Sector	-0.08	0.18						0.709421	11		
75	23800	0.57	0.512647	8	Sector	0.18	0.16						0.709281	10		
92.5	28600	0.37	0.512639	33	Sector	0.02	0.66						0.709505	9		
110.5	35100	0.56	0.512594	16	Sector	-0.85	0.32						0.709529	10		
128.5	41600	0.66	0.512593	16	Sector	-0.89	0.32	0.512354	7	Iso-T	-5.54	0.14	0.709561	11	0.708954	10
146.5	48100	0.40	0.512588	9	Sector	-0.98	0.18						0.709442	10		
164.5	54700	0.38	0.512560	8	Sector	-1.52	0.16						0.710006	10		
182	60400	0.69	0.512588	9	Sector	-0.98	0.18						0.710088	10		
200	65100	0.70	0.512578	8	Sector	-1.17	0.16						0.710487	9		
208	67200	0.36	0.512604	9	Iso-T	-0.67	0.18						0.710044	11		
218	69700	0.55	0.512629	9	Sector	-0.18	0.18						0.709639	10		
236	74400	0.53	0.512628	8	Sector	-0.19	0.16						0.709755	10		
254	78600	0.68	0.512622	9	Sector	-0.31	0.18						0.709479	11		
262	80400	0.45	0.512600	13	Iso-T	-0.74	0.26	0.512407	8	Iso-T	-4.51	0.16	0.709661	10	0.708194	10
272	82800	0.43	0.512588	9	Sector	-0.97	0.18						0.709628	10		
290	87000	0.52	0.512593	9	Sector	-0.87	0.18						0.710025	11		
308	92500	0.31	0.512612	9	Sector	-0.50	0.18						0.710114	11		
326	97900	0.37	0.512567	24	Iso-T	-1.39	0.48						0.710222	10		
344	103400	0.41	0.512570	8	Sector	-1.33	0.16						0.709983	11		
354	106400	0.27	0.512620	12	Iso-T	-0.35	0.24	0.512311	8	Iso-T	-6.37	0.16	0.710067	11	0.708540	10
362	108900	0.46	0.512679	15	Sector	0.80	0.30						0.710306	11		
370	113100	0.25	0.512580	9	Iso-T	-1.13	0.18	0.512269	7	Iso-T	-7.20	0.14	0.710503	10	0.709567	11
378	117500	0.51	0.512626	8	Sector	-0.24	0.16						0.710803	10		
396.6	127600	0.32	0.512589	10	Iso-T	-0.95	0.20						0.710620	11		
414.6	134000	0.41	0.512677	14	Iso-T	0.76	0.28						0.709277	11		
430.6	138700	0.46	0.512673	10	Iso-T	0.68	0.20						0.709362	14		
448.6	144100	0.37	0.512604	8	Sector	-0.67	0.16						0.709264	11		

