9. DATA REPORT: INORGANIC GEOCHEMISTRY OF MIOCENE TO RECENT SAMPLES FROM CHATHAM RISE, SOUTHWEST PACIFIC, SITE 1123¹

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INTRODUCTION

In 1998 Ocean Drilling Program Leg 181 off southwest New Zealand obtained cores from Site 1123 (41°47.2′S, 171°29.9′W; 3290 m water depth) on the Chatham Rise. Site 1123 sampled the North Chatham Sediment Drift, which is located between 169°W and 175°W at depths of 2200–4500 m (Carter, McCave, Richter, Carter, et al., 1999). This site is located just north of the productive surface waters associated with the Subtropical Front. The cores provide a relatively complete record of sedimentation on the Chatham Drift back to the early Miocene and beyond a stratigraphic gap into the early Oligocene. Drift sedimentation is partly indicated by modern paleoceanographic observations and by extensive microfossil reworking throughout the recovered sediment (Carter and McCave, 1994; Carter, McCave, Richter, Carter, et al., 1999).

Approximately 1000 sediment samples from the lower Oligocene, lower Miocene, middle Miocene, and upper Pleistocene have been analyzed geochemically for elemental concentrations. The stratigraphic intervals sampled at 5- to 10-cm intervals are listed in Table T1. The elemental concentrations, normalized by aluminium concentrations, provide proxies for factors such as nutrient levels, siliciclastic and volcaniclastic sediment composition, and bottom-water redox conditions. This approach was prompted by successes with Miocene and Oligocene deep-sea sediment elemental ratios obtained from the Ceara Rise in the western equatorial Atlantic (Weedon and Shackleton, 1997). The results for Ba/Al in the Pleistocene were discussed by Hall et al. (2001), and an **T1.** Location of samples analyzed geochemically, p. 6.

¹Weedon, G.P., and Hall, I.R., 2002. Data report: Inorganic geochemistry of Miocene to recent samples from Chatham Rise, southwest Pacific, Site 1123. *In* Richter, C. (Ed.), *Proc. ODP, Sci. Results*, 181, 1–10 [Online]. Available from World Wide Web: <http://www-odp.tamu.edu/ publications/181_SR/VOLUME/ CHAPTERS/209.PDF>. [Cited YYYY-MM-DD]

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interpretation of a selection of additional elemental ratios from all the stratigraphic intervals was provided by Weedon and Hall (submitted [N1]). However, many components listed here, particularly the trace elements and rare earth elements, were not considered by Weedon and Hall (submitted [N1]).

METHODOLOGY AND RESULTS

Approximately 1 g of sediment sample was fused and dissolved for analysis using a Perkin Elmer Plasma 40 Philips PV8060 inductively coupled plasma–atomic emission spectrophotometer following the procedures described by Thompson and Walsh (1989). Note that all the results reported here are elemental concentrations and ratios and not elemental oxide concentrations and ratios. A total of 13 repeat analyses of upper Pleistocene sediment samples were used to establish the analytical precision. Precision for each element was determined as a percentage of the standard deviation of the relative concentrations (the concentrations divided by the sample mean concentration) (Table T2). The precision is generally very good (usually <2%, except in the case of *P*, which is about 5%). A list of all the samples analyzed and their elemental concentrations is provided in Table T3.

Measurements of weight percent $CaCO_3$ were obtained from inorganic carbon measurements by elemental CHN analyses using a Carlo Erba EA1106 analyzer by methods in King et al. (1998). The age models used for dating the samples differ according to the sample set involved. Hall et al. (2001) used orbital tuning of oxygen isotopes from benthic foraminifers to date samples spanning the last 1.2 m.y. The samples from the lower Miocene and lower Oligocene were dated by linear interpolation between the ages for paleomagnetic reversals (Carter, Mc-Cave, Richter, Carter, et al., 1999). The ages for reversal events were obtained from the Berggren et al. (1995) chronology. For the mid-Miocene section, Hall et al. (submitted [N2]) tuned a record of sortable silt mean size to the orbital tilt history calculated using the Laskar et al. (1993) orbital solution.

As an example of the type of results obtained, Figure F1 shows elemental ratios from samples of the upper Pleistocene at Site 1123 plotted against time. These data are plotted beside the oxygen isotopes from benthic foraminifers obtained by Hall et al. (2001). Particularly striking are the coincidence of relatively high Si/Al and K/Al values and low Ti/ Al values occurring in several thin horizons. In some cases these thin horizons have relatively low calcium carbonate contents. Many of these samples are located close to macroscopic tephra layers and are presumably sediments that contain variable amounts of bioturbated tephra (Weedon and Hall, submitted [N1]). The macroscopic tephra layers described during Leg 181 are further discussed by Carter et al. (submitted [N3]). The tephra-bearing samples should be removed from these records prior to analysis of the samples for the background or pelagic sediment history as recorded by the elemental ratios. No tephras were encountered in the samples from the pre-Pleistocene stratigraphic intervals.

T2. Precision estimates for selected geochemical analyses, p. 7.

T3. Geochemical data, p. 9.

F1. Oxygen isotopes, weight percent calcium carbonate, and elemental ratios, upper Pleistocene samples, p. 5.



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Figure F1. Oxygen isotopes (δ^{18} O) (Hall et al., 2001), weight percent calcium carbonate, and elemental ratios in samples from the upper Pleistocene at ODP Site 1123. The dashed lines indicating tephra events are located at the bases of stratigraphic intervals with anomalously high Si/Al and K/Al and anomalously low Ti/Al values.



Table T1. Location of samples from ODP Site 1123 analyzed geochemically.

Epoch	Lithologic unit	Splice	Hole, core, section, interval (cm)	Depth (mbsf)	Age (Ma)
late Pleistocene	ΙΔ	Ton	1123C-1H-1 4-6	0.04	0.001
late Pleistocene	IA	Base	1123C-1H-5 110-112	7 10	0.001
late Pleistocene	IA	Top	11238-2H-4 4_6	7 94	0 171
late Pleistocene	IA	Base	1123B-2H-6 64-66	11 54	0.256
late Pleistocene	IA	Top	1123C-2H-2, 113–115	11.63	0.266
late Pleistocene	IA	Base	1123C-2H-5, 92–94	15.92	0.351
late Pleistocene	IA	Top	1123B-3H-1, 114–116	14.02	0.353
late Pleistocene	IA	Base	1123B-3H-6, 88–90	21.29	0.507
late Pleistocene	IA	Top	1123C-3H-3, 80–82	22.31	0.509
late Pleistocene	IA	Base	1123C-3H-6, 29-31	26.30	0.620
late Pleistocene	IA	Тор	1123B-4H-3, 107–108	26.47	0.622
late Pleistocene	IA	Base	1123B-4H-5, 126–128	26.67	0.720
late Pleistocene	IA	Тор	1123C-4H-2, 27–29	29.78	0.723
late Pleistocene	IA	Base	1123C-4H-7, 40–42	37.40	0.926
late Pleistocene	IA	Тор	1123B-5H-1, 67–69	32.58	0.929
late Pleistocene	IA	Base	1123B-5H-4, 139–141	37.80	1.058
late Pleistocene	IA	Тор	1123C-5H-3, 115–117	41.66	1.060
late Pleistocene	IA	Base	1123C-5H-6, 15–17	45.16	1.178
late Pleistocene	IA	Тор	1123B-6H-1, 139–141	42.80	1.181
late Pleistocene	IA	Base	1123B-6H-2, 17–19	43.08	1.188
middle Miocene	e IIIA	Тор	1123B-49X-2, 129–130	453.59	13.87
middle Miocene	e IIIA	Base	1123B-51X-3, 149–150	474.49	15.46
early Miocene	IIIC	Тор	1123C-27X-1, 0–2	565.40	19.97
early Miocene	IIIC	Base	1123C-29X-2, 100–102	587.20	20.65
early Oligocene	IV	Тор	1123C-29X-2, 120–122	587.40	32.82
early Oligocene	IV	Base	1123C-29X-6, 52–54	592.72	33.12

Table T2. Precision estimates for selected geochemical analyses. For each element, precision equals 100% times the standard deviation of the relative concentrations (i.e., the concentrations divided by the mean concentration). (Continued on next page.)

Core, section, interval (cm)	Measured concentration	Relative concentration	Core, section, interval (cm)	Measured concentration	Relative concentration
Al (wt%):			1H-1, 4	36	1.027
181-1123B-			1H-1, 4	35	1.000
3H-4, 82	2.01	1.008	1H-1, 4	34	0.971
3H-4, 82	1.93	0.971	1H-1, 4	35	1.000
3H-4, 82	2.00	1.006	1H-1, 4	36	1.027
3H-4, 82	1.99	1.000	1H-1, 4	35	1.000
3H-4, 82	2.00	1.006	1H-1, 4	34	0.971
3H-4, 82	2.01	1.008	Mean:	35.0	
Mean:	1.99		Relative precision (%):	1.65	
1H-1, 4	3.24	1.003	Fe (wt%):		
1H-1, 4	3.24	1.001	181-1123B-		
, 1H-1, 4	3.24	1.001	3H-4, 82	0.797	1.009
1H-1, 4	3.25	1.006	3H-4, 82	0.769	0.973
1H-1, 4	3.24	1.003	3H-4, 82	0.790	1,000
1H-1 4	3 23	0.998	3H-4 82	0 787	1 009
1H-1 4	3 19	0.997	3H-4 82	0.783	0.991
Mean:	3 23	0.707	Mean:	0.705	0.771
Pelative precision (%)	J.2J		3H_4_82	0.804	1 018
Relative precision (%)). 1.05		511-4, 82 111 1 4	1 410	1.010
Ba (μg/g):			18-1, 4	1.419	1.001
181-1123B-			18-1, 4	1.419	1.001
3H-4, 82	502	1.015	IH-1, 4	1.384	0.977
3H-4, 82	481	0.972	IH-1, 4	1.440	1.016
3H-4, 82	490	0.991	1H-1, 4	1.447	1.021
3H-4, 82	487	0.985	1H-1, 4	1.405	0.991
3H-4, 82	507	1.025	1H-1, 4	1.405	0.991
3H-4, 82	501	1.013	Mean:	1.417	
Mean:	494.7		Relative precision (%):	1.49	
1H-1 4	721	1 005	K (wt%):		
1H-1 4	723	1.005	181-1123B-		
1H-1, 4 1H-1, 4	703	0.980	3H_4 82	0.664	1 013
111-1, 4	705	1,000	211 / 22	0.631	0.062
111-1,4	724	1.009	311- 4 , 82	0.031	1.000
10-1,4	722	1.007	S⊟-4, 62	0.030	1.000
10-1,4	727	1.015	S⊟-4, 62	0.030	1.000
18-1, 4	701	0.977	38-4, 82	0.004	1.013
Mean:	/1/.3		3H-4, 82	0.664	1.013
Relative precision (%)): 1.69		Mean:	0.656	1 000
Ca (wt%):			1H-1, 4	1.013	1.008
181-1123B-			1H-1, 4	1.004	1.000
3H-4, 82	28.0	1.011	1H-1, 4	1.004	1.000
3H-4, 82	27.0	0.975	1H-1, 4	1.013	1.008
3H-4, 82	27.7	0.998	1H-1, 4	1.013	1.008
3H-4 82	27.9	1 006	1H-1, 4	0.996	0.992
3H-4 82	27.8	1 002	1H-1, 4	0.988	0.983
3H_4 82	28.0	1.002	Mean:	1.004	
Mean:	20.0	1.000	Relative precision (%):	1.43	
	27.7	1 011	$M_{CL}(M^{+}06)$		
111-1,4	21.0	1.011	191 1122P		
10-1,4	21.0	0.095	101-1123D- 211.4.92	0 424	1 01 2
10-1,4	21.2	0.963	S⊟-4, 62	0.454	1.012
10-1,4	21.7	1.008	38-4, 82	0.416	0.970
IH-1, 4	21.9	1.017	3H-4, 82	0.428	0.998
IH-1, 4	21.2	0.988	3H-4, 82	0.434	1.012
IH-1, 4	21.2	0.987	3H-4, 82	0.428	0.998
Mean:	21.5		3H-4, 82	0.434	1.012
Relative precision (%)): 1.27		Mean:	0.429	
Cu (ua/a):			1H-1, 4	0.603	1.000
181-1123B-			1H-1, 4	0.603	1.000
3H-4 82	19	1.000	1H-1, 4	0.591	0.980
3H_4 82	19	1 000	1H-1, 4	0.609	1.010
3H_4 87	10	1 000	1H-1, 4	0.621	1.030
20 אדיווכ 24_1 פיז	10	1.000	1H-1, 4	0.597	0.990
אייוו <i>ב</i> 20 איי	17 10	1.000	1H-1, 4	0.597	0.990
סת- 4 , ס∠ סם ג פס	17	1.000	Mean:	0.603	
S⊓-4, 6∠	17	1.000	Relative precision (%):	1.57	
Mean.	19.0				

Table T2 (continued).

Core, section, interval (cm)	Measured concentration	Relative concentration	Core, section, interval (cm)	Measured concentration	Relative concentration
Ni (µg/g) 181-1123B-			Ti (wt%): 181-1123B-		
3H-4, 82	18	0.982	3H-4, 82	0.0959	1.000
3H-4, 82	18	0.982	3H-4, 82	0.0959	1.000
3H-4, 82	18	0.982	3H-4, 82	0.0959	1.000
3H-4, 82	19	1.036	3H-4, 82	0.0959	1.000
3H-4, 82	18	0.982	3H-4, 82	0.0959	1.000
3H-4, 82	19	1.036	Mean:	0.0959	
Mean:	18		3H-4, 82	0.0959	1.000
1H-1, 4	27	1.038	1H-1, 4	0.1499	0.978
1H-1, 4	25	0.961	1H-1, 4	0.1559	1.017
1H-1, 4	26	1.000	1H-1, 4	0.1559	1.017
1H-1, 4	26	1.000	1H-1, 4	0.1559	1.017
1H-1, 4	26	1.000	1H-1, 4	0.1559	1.017
1H-1, 4	26	1.000	1H-1, 4	0.1499	0.978
1H-1, 4	26	1.000	1H-1, 4	0.1499	0.978
Mean:	26		Mean:	0.1533	
Relative precision (%)	: 2.40		Relative precision (%):	1.48	
P (wt%):			V (µg/g):		
181-1123B-			181-1123B-		
3H-4, 82	0.0262	0.947	3H-4, 82	25	0.987
3H-4, 82	0.0262	0.947	3H-4, 82	26	1.026
3H-4, 82	0.0305	1.105	3H-4, 82	25	0.987
3H-4, 82	0.0262	0.947	3H-4, 82	25	0.987
3H-4, 82	0.0262	0.947	3H-4, 82	25	0.987
3H-4, 82	0.0305	1.105	3H-4, 82	26	1.026
Mean:	0.0276		Mean:	25.3	
1H-1, 4	0.0349	1.0007	1H-1, 4	41	1.011
1H-1, 4	0.0349	1.000	1H-1, 4	40	0.986
1H-1, 4	0.0349	1.000	1H-1, 4	40	0.986
1H-1, 4	0.0349	1.000	1H-1, 4	41	1.011
1H-1, 4	0.0349	1.000	1H-1, 4	41	1.011
1H-1, 4	0.0349	1.000	1H-1, 4	41	1.011
1H-1, 4	0.0349	1.000	1H-1, 4	40	0.986
Mean:	0.0349		Mean:	40.6	
Relative precision (%)	: 5.26		Relative precision (%):	1.61	

Table T3. Geochemical data for late Pleistocene samples

Leg	Site	Hole	Core	Core type S	Section	Top (cm)	Bottom (cm)	Depth (mbsf)	Depth (mcd.new*)	Age (Ma)	CaCO ₃ (wt%)	Si (wt%)	Al (wt%)	Fe) (wt%	ا ۷) (۷	Mg vt%) (Ca (wt%)	Na (wt%)	K (wt%)	Ti (wt%)	P (wt%)	Mn (wt%)	Ba (µg/g)	Co (µg/g)	Cr (µg/g)
181	1123	C	1	н	1	4	6	0.04	0.04	0.001	58.6	11.1	3.24	1.42	0	603	21.8	1.68	1.01	0.150	0.0349	0.124	721	5	15
181	1123	C	1	н	1	9	11	0.09	0.09	0.002	51.8	11.2	3.27	1.41	0.	.603	21.7	1.71	1.04	0.150	0.0349	0.085	686	5	16
181	1123	С	1	н	1	21	23	0.21	0.21	0.004	62.0	10.0	2.93	1.32	. 0.	.585	23.4	1.53	0.94	0.144	0.0305	0.085	694	6	14
181	1123	С	1	н	1	29	31	0.29	0.29	0.006	66.5	9.1	2.67	1.24	0.	.567	24.3	1.54	0.86	0.132	0.0305	0.023	722	2	15
181	1123	С	1	н	1	42	44	0.42	0.42	0.009	61.5	10.5	3.16	1.41	0.	.669	23.3	1.62	1.05	0.156	0.0305	0.023	919	3	18
181	1123	С	1	н	1	49	51	0.49	0.49	0.010	51.9	13.6	3.91	1.82	2 0.	.796	19.6	1.74	1.30	0.192	0.0305	0.023	871	5	25
181	1123	С	1	н	1	58	60	0.58	0.58	0.012	39.0	13.5	4.03	1.71	0.	.790	17.4	1.79	1.32	0.192	0.0305	0.023	855	5	25
181	1123	С	1	н	1	68	70	0.68	0.68	0.014	40.2	14.6	4.30	1.82	2 0.	.844	16.6	2.02	1.43	0.204	0.0305	0.023	874	5	28
181	1123	С	1	н	1	78	80	0.78	0.78	0.016	36.3	17.2	4.79	2.02	2 0.	.874	14.0	2.18	1.59	0.216	0.0305	0.023	870	6	28
181	1123	С	1	н	1	90	92	0.90	0.90	0.019	28.1	19.4	5.13	2.05	0.	.844	11.7	2.43	1.79	0.204	0.0305	0.031	893	6	26
181	1123	С	1	н	1	102	104	1.02	1.02	0.021	35.3	20.0	5.30	2.05	0.	.838	11.4	2.33	1.79	0.216	0.0305	0.031	793	6	27
181	1123	C	1	Н	1	109	111	1.09	1.09	0.022	26.8	18.6	5.12	2.08	0.	.856	12.4	2.21	1.71	0.222	0.0305	0.031	847	6	28
181	1123	С	1	н	1	122	124	1.22	1.22	0.025	24.2	19.6	4.96	1.82	0.	.718	12.0	2.32	1.77	0.192	0.0305	0.031	847	5	21
181	1123	C	1	н	1	128	130	1.28	1.28	0.026	24.9	24.0	5.62	1.69	0.	.621	8./	2.64	2.09	0.180	0.0262	0.039	828	3	16
181	1123	C	1	н	1	142	144	1.42	1.42	0.029	33.9	18.8	4.92	1.82	20. 20.	./66	12.9	2.31	1.70	0.204	0.0305	0.039	//5	5	22
181	1123	C	1	н	2	4	6	1.54	1.54	0.032	23.1	22.3	5.26	1.6/	0.	.663	11.1	2.55	1.84	0.180	0.0262	0.039	782	4	17
181	1123	C	I	н	Z	9	11	1.59	1.59	0.033	45.4	14.5	4.42	2.17	0.	.911	16.4	2.09	1.50	0.216	0.0349	0.031	/66	6	29
				Core		Top	Bottom	Denth	Depth	Cu		Ni	Sc	Sr	V	Y	Zn		la	Ce	Nd	Sm	Fu	Dv	Yh
Leg	Site	Hole	Core	Core type S	Section	Top (cm)	Bottom (cm)	Depth (mbsf)	Depth (mcd.new*)	Cu (µg/g)	Li (µg/g)	Ni (µg/g)	Sc (µg/g)	Sr (µg/g)	V (µg/g)	Y (µg/g)	Zn (µg/g)	Zr (µg/g)	La (µg/g)	Ce (µg/g)	Nd (µg/g)	Sm (µg/g)	Eu (µg/g)	Dy (µg/g)	Yb (µg/g)
Leg 181	Site 1123	Hole	Core	Core type S	Section	Top (cm) 4	Bottom (cm) 6	Depth (mbsf) 0.04	Depth (mcd.new*) 0.04	Cu (µg/g) 36	Li (µg/g) 31	Ni (µg/g) 27	Sc (µg/g) 5	Sr (μg/g) 1075	V (µg/g) 41	Y (µg/g) 19	Zn (µg/g) 50	Zr (µg/g) 31	La (µg/g) 13	Ce (µg/g) 34	Nd (µg/g) 12.1	Sm (μg/g) 2.39	Eu (μg/g) 0.58	Dy (µg/g) 2.5	Υb (µg/g) 1.1
Leg 181 181	Site 1123 1123	Hole C C	Core	Core type S H H	Section 1 1	Top (cm) 4 9	Bottom (cm) 6 11	Depth (mbsf) 0.04 0.09	Depth (mcd.new*) 0.04 0.09	Cu (µg/g) 36 38	Li (µg/g) 31 32	Ni (µg/g) 27 22	Sc (µg/g) 5 5	Sr (μg/g) 1075 1038	V (µg/g) 41 41	Υ (µg/g) 19 19	Zn (µg/g) 50 51	Zr (µg/g) 31 37	La (µg/g) 13 13	Ce (µg/g) 34 35	Nd (µg/g) 12.1 12.5	Sm (μg/g) 2.39 2.09	Eu (μg/g) 0.58 0.48	Dy (µg/g) 2.5 2.5	Yb (µg/g) 1.1 1.2
Leg 181 181 181	Site 1123 1123 1123	Hole C C C	Core 1 1 1	Core type S H H H	Section 1 1 1	Top (cm) 4 9 21	Bottom (cm) 6 11 23	Depth (mbsf) 0.04 0.09 0.21	Depth (mcd.new*) 0.04 0.09 0.21	Cu (µg/g) 36 38 34	Li (µg/g) 31 32 29	Ni (µg/g) 27 22 17	Sc (μg/g) 5 5 5 5	Sr (μg/g) 1075 1038 1127	V (µg/g) 41 41 37	Υ (µg/g) 19 19 18	Zn (µg/g) 50 51 45	Zr (µg/g) 31 37 27	La (µg/g) 13 13 11	Ce (µg/g) 34 35 31	Nd (µg/g) 12.1 12.5 13.0	Sm (μg/g) 2.39 2.09 2.53	Eu (μg/g) 0.58 0.48 0.49	Dy (µg/g) 2.5 2.5 2.1	Yb (µg/g) 1.1 1.2 1.1
Leg 181 181 181 181	Site 1123 1123 1123 1123	Hole C C C C	Core 1 1 1 1	Core type S H H H H	Section 1 1 1 1	Top (cm) 4 9 21 29	Bottom (cm) 6 11 23 31	Depth (mbsf) 0.04 0.09 0.21 0.29	Depth (mcd.new*) 0.04 0.09 0.21 0.29	Cu (µg/g) 36 38 34 28	Li (µg/g) 31 32 29 28	Ni (µg/g) 27 22 17 16	Sc (μg/g) 5 5 5 4	Sr (μg/g) 1075 1038 1127 1166	V (µg/g) 41 41 37 34	Y (µg/g) 19 19 18 17	Zn (µg/g) 50 51 45 44	Zr (µg/g) 31 37 27 33	La (µg/g) 13 13 11 11	Ce (µg/g) 34 35 31 32	Nd (µg/g) 12.1 12.5 13.0 11.0	Sm (µg/g) 2.39 2.09 2.53 2.07	Eu (μg/g) 0.58 0.48 0.49 0.49	Dy (µg/g) 2.5 2.5 2.1 2.1	Yb (µg/g) 1.1 1.2 1.1 1.1
Leg 181 181 181 181 181	Site 1123 1123 1123 1123 1123	Hole C C C C C C	Core 1 1 1 1 1	Core type S H H H H H	Section 1 1 1 1 1 1	Top (cm) 4 9 21 29 42	Bottom (cm) 6 11 23 31 44	Depth (mbsf) 0.04 0.21 0.29 0.42	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42	Cu (µg/g) 36 38 34 28 31	Li (µg/g) 31 32 29 28 34	Ni (μg/g) 27 22 17 16 21	Sc (μg/g) 5 5 5 4 5	Sr (μg/g) 1075 1038 1127 1166 1103	V (µg/g) 41 41 37 34 45	Υ (μg/g) 19 19 18 17 19	Zn (µg/g) 50 51 45 44 52	Zr (µg/g) 31 37 27 33 45	La (µg/g) 13 13 11 11 11 13	Ce (µg/g) 34 35 31 32 32	Nd (μg/g) 12.1 12.5 13.0 11.0 11.2	Sm (µg/g) 2.39 2.09 2.53 2.07 2.19	Eu (µg/g) 0.58 0.48 0.49 0.49 0.49	Dy (µg/g) 2.5 2.5 2.1 2.1 2.2	Yb (μg/g) 1.1 1.2 1.1 1.1 1.1 1.2
Leg 181 181 181 181 181 181	Site 1123 1123 1123 1123 1123 1123	Hole C C C C C C C	Core 1 1 1 1 1 1 1	Core type S H H H H H H H	Section 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49	Bottom (cm) 6 11 23 31 44 51	Depth (mbsf) 0.04 0.09 0.21 0.29 0.42 0.49	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49	Cu (µg/g) 36 38 34 28 31 45	Li (µg/g) 31 32 29 28 34 43	Ni (µg/g) 27 22 17 16 21 25	Sc (μg/g) 5 5 5 4 5 7	Sr (μg/g) 1075 1038 1127 1166 1103 925	V (µg/g) 41 41 37 34 45 62	Υ (μg/g) 19 19 18 17 19 19	Zn (μg/g) 50 51 45 44 52 65	Zr (µg/g) 31 37 27 33 45 78	La (µg/g) 13 13 11 11 11 13 15	Ce (µg/g) 34 35 31 32 32 32 36	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2	Sm (μg/g) 2.39 2.09 2.53 2.07 2.19 2.82	Eu (μg/g) 0.58 0.49 0.49 0.49 0.48 0.64	Dy (µg/g) 2.5 2.1 2.1 2.2 2.4	Yb (μg/g) 1.1 1.2 1.1 1.1 1.2 1.2 1.2
Leg 181 181 181 181 181 181 181	Site 1123 1123 1123 1123 1123 1123 1123	Hole C C C C C C C C C	Core 1 1 1 1 1 1 1 1	Core type S H H H H H H H H	Section 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58	Bottom (cm) 6 11 23 31 44 51 60	Depth (mbsf) 0.04 0.09 0.21 0.29 0.42 0.49 0.58	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58	Cu (µg/g) 36 38 34 28 31 45 32	Li (µg/g) 31 32 29 28 34 43 43	Ni (µg/g) 27 22 17 16 21 25 25	Sc (μg/g) 5 5 5 4 5 7 7 7	Sr (μg/g) 1075 1038 1127 1166 1103 925 830	V (µg/g) 41 41 37 34 45 62 62	Υ (μg/g) 19 19 18 17 19 19 19 18	Zn (μg/g) 50 51 45 44 52 65 66	Zr (µg/g) 31 37 27 33 45 78 29	La (µg/g) 13 13 11 11 13 15 15	Ce (µg/g) 34 35 31 32 32 36 36	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8	Sm (μg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87	Eu (μg/g) 0.58 0.48 0.49 0.49 0.49 0.48 0.64 0.75	Dy (µg/g) 2.5 2.1 2.1 2.2 2.4 2.2	Yb (µg/g) 1.1 1.2 1.1 1.1 1.2 1.2 1.2 1.2
Leg 181 181 181 181 181 181 181 181	Site 1123 1123 1123 1123 1123 1123 1123 112	Hole C C C C C C C C C C	Core 1 1 1 1 1 1 1 1	Core type S H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68	Bottom (cm) 6 11 23 31 44 51 60 70	Depth (mbsf) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68	Cu (µg/g) 36 38 34 28 31 45 32 29	Li (µg/g) 31 32 29 28 34 43 43 43 46	Ni (µg/g) 27 22 17 16 21 25 25 25 25	Sc (μg/g) 5 5 5 4 5 7 7 7 7	Sr (μg/g) 1075 1038 1127 1166 1103 925 830 789	V (µg/g) 41 41 37 34 45 62 62 58	γ (μg/g) 19 19 18 17 19 19 18 19	Zn (μg/g) 50 51 45 44 52 65 66 68	Zr (µg/g) 31 37 27 33 45 78 29 27	La (µg/g)) 13 13 11 11 13 15 15 15 16	Ce (µg/g) 34 35 31 32 32 36 36 36 38	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7	Sm (µg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87 3.62	Eu (μg/g) 0.58 0.48 0.49 0.49 0.49 0.48 0.64 0.75 0.74	Dy (µg/g) 2.5 2.1 2.1 2.2 2.4 2.2 2.5	Yb (µg/g) 1.1 1.2 1.1 1.1 1.2 1.2 1.2 1.2 1.2
Leg 181 181 181 181 181 181 181 181 181	Site 1123 1123 1123 1123 1123 1123 1123 112	Hole C C C C C C C C C C C C C	Core 1 1 1 1 1 1 1 1 1	Core type S H H H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68 78	Bottom (cm) 6 11 23 31 44 51 60 70 80	Depth (mbsf) 0.04 0.21 0.29 0.42 0.49 0.58 0.68 0.78	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68 0.78	Cu (µg/g) 36 38 34 28 31 45 32 29 31	Li (µg/g) 31 32 29 28 34 43 43 43 43 43 49	Ni (µg/g) 27 22 17 16 21 25 25 25 25 25 25	Sc (μg/g) 5 5 5 4 5 7 7 7 8	Sr (μg/g) 1075 1038 1127 1166 1103 925 830 789 686	V (µg/g) 41 41 37 34 45 62 62 58 62	γ (μg/g) 19 19 18 17 19 19 18 19 20	Zn (μg/g) 50 51 45 44 52 65 66 68 71	Zr (µg/g) 31 37 27 33 45 78 29 27 74	La (µg/g) 13 13 11 11 13 15 15 16 16	Ce (µg/g) 34 35 31 32 32 36 36 36 38 40	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7 19.2	Sm (µg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87 3.62 2.63	Eu (μg/g) 0.58 0.48 0.49 0.49 0.49 0.48 0.64 0.75 0.74 0.83	Dy (µg/g) 2.5 2.5 2.1 2.1 2.2 2.4 2.2 2.5 2.7	Yb (μg/g) 1.1 1.2 1.1 1.1 1.2 1.2 1.2 1.2 1.2 1.3
Leg 181 181 181 181 181 181 181 181 181	Site 1123 1123 1123 1123 1123 1123 1123 112	Hole C C C C C C C C C C C C C C C C C C C	Core 1 1 1 1 1 1 1 1 1 1	Core type S H H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68 78 90	Bottom (cm) 6 11 23 31 44 51 60 70 80 92	Depth (mbsf) 0.04 0.29 0.42 0.49 0.58 0.68 0.78 0.90	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68 0.78 0.90	Cu (µg/g) 36 38 34 28 31 45 32 29 31 29	Li (µg/g) 31 32 29 28 34 43 43 43 43 46 49 49	Ni (µg/g) 27 22 17 16 21 25 25 25 25 25 25 26	Sc (μg/g) 5 5 5 4 5 7 7 7 7 8 8	Sr (μg/g) 1075 1038 1127 1166 1103 925 830 789 686 598	V (µg/g) 41 41 37 34 45 62 62 58 62 58 62 58	γ (µg/g) 19 19 18 17 19 19 18 19 20 21	Zn (μg/g) 50 51 45 44 52 65 66 68 71 70	Zr (µg/g) 31 37 27 33 45 78 29 27 74 78	La (µg/g) 13 13 11 11 13 15 15 16 16 16 17	Ce (µg/g) 34 35 31 32 32 36 36 36 38 40 42	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7 19.2 20.1	Sm (μg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87 3.62 2.63 3.62	Eu (μg/g) 0.58 0.48 0.49 0.49 0.49 0.48 0.64 0.75 0.74 0.83 0.62	Dy (µg/g) 2.5 2.1 2.1 2.2 2.4 2.2 2.4 2.2 2.5 2.7 2.6	Yb (µg/g) 1.1 1.2 1.1 1.1 1.2 1.2 1.2 1.2 1.2 1.3 1.3
Leg 181 181 181 181 181 181 181 181 181 18	Site 1123 1123 1123 1123 1123 1123 1123 112	Hole C C C C C C C C C C C C C C C C C C C	Core 1 1 1 1 1 1 1 1 1 1 1	Core type S H H H H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68 78 90 102	Bottom (cm) 6 11 23 31 44 51 60 70 80 92 104	Depth (mbsf) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68 0.78 0.90 1.02	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.42 0.49 0.58 0.68 0.78 0.90 1.02	Cu (µg/g) 36 38 34 28 31 45 32 29 31 29 28	Li (µg/g) 31 32 29 28 34 43 43 43 46 49 49 49	Ni (µg/g) 27 22 17 16 21 25 25 25 25 25 26 24	Sc (μg/g) 5 5 5 4 5 7 7 7 7 8 8 8	Sr (µg/g) 1075 1038 1127 1166 1103 925 830 789 686 598 562	V (µg/g) 41 41 37 34 45 62 62 58 62 58 62 56 58	γ (µg/g) 19 19 18 17 19 19 18 19 20 21 22	Zn (μg/g) 50 51 45 44 52 65 66 68 71 70 69	Zr (µg/g) 31 37 27 33 45 78 29 27 74 78 105	La (µg/g) 13 13 11 11 13 15 15 16 16 16 17 18	Ce (µg/g) 34 35 31 32 32 36 36 36 38 40 42 43	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7 19.2 20.1 25.0	Sm (μg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87 3.62 2.63 3.62 3.72	Eu (μg/g) 0.58 0.48 0.49 0.49 0.49 0.49 0.49 0.49 0.64 0.75 0.74 0.83 0.62 0.92	Dy (µg/g) 2.5 2.1 2.1 2.2 2.4 2.2 2.4 2.2 2.5 2.7 2.6 2.9	Yb (µg/g) 1.1 1.2 1.1 1.1 1.2 1.2 1.2 1.2 1.2 1.3 1.3 1.3 1.3
Leg 181 181 181 181 181 181 181 181 181 18	Site 1123 1123 1123 1123 1123 1123 1123 112	Hole C C C C C C C C C C C C C C C C C C C	Core 1 1 1 1 1 1 1 1 1 1 1	Core type S H H H H H H H H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68 78 90 102 109	Bottom (cm) 6 11 23 31 44 51 60 70 80 92 104 111	Depth (mbsf) 0.04 0.09 0.21 0.42 0.49 0.58 0.68 0.78 0.90 1.02 1.09	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68 0.78 0.90 1.02 1.09	Cu (µg/g) 36 38 34 28 31 45 32 29 31 29 28 32 25	Li (µg/g) 31 32 29 28 34 43 43 43 46 49 49 49 49 49	Ni (µg/g) 27 22 17 16 21 25 25 25 25 25 25 26 24 26 24 26	Sc (μg/g) 5 5 5 4 5 7 7 7 7 8 8 8 8 8	Sr (μg/g) 1075 1038 1127 1166 1103 925 830 789 686 598 562 639 562 639	V (µg/g) 41 41 37 34 45 62 62 58 62 58 62 58 62 58 64	γ (µg/g) 19 19 18 17 19 19 18 19 20 21 22 22 22	Zn (μg/g) 50 51 45 44 52 65 66 68 71 70 69 74	Zr (µg/g) 31 37 27 33 45 78 29 27 74 78 105 91	La (µg/g) 13 13 11 11 13 15 15 16 16 16 17 18 17	Ce (µg/g) 34 35 31 32 36 36 36 38 40 42 43 43	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7 19.2 20.1 25.0 18.9 25.0	Sm (μg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87 3.62 2.63 3.62 3.72 4.31	Eu (µg/g) 0.58 0.48 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.64 0.75 0.74 0.83 0.62 0.92 0.52	Dy (µg/g) 2.5 2.5 2.1 2.1 2.2 2.4 2.2 2.4 2.2 2.5 2.7 2.6 2.9 3.1	Yb (µg/g) 1.1 1.2 1.1 1.2 1.2 1.2 1.2 1.2 1.3 1.3 1.3 1.3 1.3
Leg 181 181 181 181 181 181 181 181 181 18	Site 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123	Hole	Core 1 1 1 1 1 1 1 1 1 1 1 1 1	Core type S H H H H H H H H H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68 78 90 102 109 122	Bottom (cm) 6 11 23 31 44 51 60 70 80 92 104 111 122	Depth (mbsf) 0.04 0.09 0.21 0.49 0.58 0.68 0.78 0.90 1.02 1.09 1.22	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68 0.78 0.90 1.02 1.09 1.22	Cu (µg/g) 36 38 34 28 31 45 32 29 31 29 31 29 28 32 25 25	Li (µg/g) 31 32 29 28 34 43 43 43 46 49 49 49 49 49 49	Ni (µg/g) 27 22 17 16 21 25 25 25 25 25 25 26 24 26 23 10	Sc (μg/g) 5 5 5 4 5 7 7 7 7 7 8 8 8 8 8 8 8 7 7	Sr (μg/g) 1075 1038 1127 1166 1103 925 830 789 686 598 562 639 602 639 602	V (µg/g) 41 41 37 34 45 62 62 58 62 58 62 58 64 48 22	γ (µg/g) 19 19 18 17 19 18 19 20 21 22 22 22 22 22 22	Zn (μg/g) 50 51 45 44 52 65 66 66 68 71 70 69 74 68	Zr (µg/g) 31 37 27 33 45 78 29 27 74 78 105 91 91	La (µg/g) 13 13 11 11 13 15 15 16 16 16 17 18 17 18 17 18	Ce (µg/g) 34 35 31 32 36 36 36 38 40 42 43 43 43 43	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7 19.2 20.1 25.0 18.9 25.8 26.2	Sm (µg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87 3.62 2.63 3.62 3.72 4.31 3.42	Eu (µg/g) 0.58 0.48 0.49 0.49 0.49 0.49 0.48 0.64 0.75 0.74 0.83 0.62 0.92 0.52 0.52	Dy (µg/g) 2.5 2.5 2.1 2.1 2.2 2.4 2.2 2.5 2.7 2.6 2.9 3.1 3.1 3.1	Yb (µg/g) 1.1 1.2 1.1 1.2 1.2 1.2 1.2 1.2 1.3 1.3 1.3 1.3 1.3 1.3 2.2
Leg 181 181 181 181 181 181 181 181 181 18	Site 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123	Hole CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	2 Core	Core type S H H H H H H H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68 78 90 102 109 122 128 142	Bottom (cm) 6 11 23 31 44 51 60 70 80 92 104 111 124 130	Depth (mbsf) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.78 0.78 0.78 0.90 1.02 1.09 1.22 1.28	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68 0.78 0.68 0.78 0.90 1.02 1.09 1.22 1.28	Cu (µg/g) 36 38 34 28 31 45 32 29 31 29 28 32 25 17 20	Li (µg/g) 31 32 29 28 34 43 43 43 46 49 49 49 49 49 49 43 41	Ni (µg/g) 27 22 17 16 21 25 25 25 25 25 25 26 24 26 23 18 23	Sc (μg/g) 5 5 5 4 5 7 7 7 7 8 8 8 8 8 8 7 7 7 7	Sr (μg/g) 1075 1038 1127 1166 1103 925 830 789 686 598 562 639 602 445	V (µg/g) 41 41 37 34 45 62 58 62 58 62 58 62 58 64 48 38 52	γ (µg/g) 19 19 18 17 19 19 18 19 20 21 22 22 22 24 22 24 23	Zn (μg/g) 50 51 45 44 52 65 66 68 71 70 69 74 68 63	Zr (µg/g) 31 37 27 33 45 78 29 27 74 78 105 91 94 106 21	La (µg/g) 13 13 11 11 13 15 15 16 16 16 17 18 17 18 20 0 17	Ce (µg/g) 34 35 31 32 36 36 36 38 40 42 43 43 43 43 43	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7 19.2 20.1 25.0 18.9 25.8 26.8 26.2	Sm (µg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87 3.62 2.63 3.62 3.72 4.31 3.42 4.34 2.62	Eu (μg/g) 0.58 0.48 0.49 0.49 0.49 0.48 0.64 0.75 0.74 0.83 0.62 0.92 0.52 0.54 0.84	Dy (µg/g) 2.5 2.5 2.1 2.1 2.2 2.4 2.2 2.5 2.7 2.6 2.9 3.1 3.1 3.8 2.2	Yb (µg/g) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.3 1.3 1.3 1.3 1.3 1.5 2.0
Leg 181 181 181 181 181 181 181 181 181 18	Site 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123 1123	Hole	e Core 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Core type S H H H H H H H H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68 78 90 102 109 122 128 142	Bottom (cm) 6 11 23 31 44 51 60 70 80 92 104 111 124 130 144	Depth (mbsf) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.78 0.78 0.90 1.02 1.09 1.22 1.28 1.42	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68 0.78 0.78 0.90 1.02 1.09 1.22 1.28 1.42	Cu (µg/g) 36 38 34 28 31 45 32 29 31 29 28 32 25 17 30 22	Li (µg/g) 31 32 29 28 34 43 43 43 43 43 49 49 49 49 49 49 49 43 41 45	Ni (µg/g) 27 22 17 16 21 25 25 25 25 25 25 25 26 24 26 23 18 23 20	Sc (μg/g) 5 5 5 4 5 7 7 7 7 8 8 8 8 8 8 8 7 7 7 6	Sr (μg/g) 1075 1038 1127 1166 1103 925 830 789 686 598 562 639 602 445 638 572	V (µg/g) 41 41 37 34 45 62 58 62 58 62 56 58 64 48 38 52 42	γ (µg/g) 19 19 18 17 19 19 18 19 20 21 22 22 24 22 24 28 22 25	Zn (μg/g) 50 51 45 44 52 65 66 68 71 70 69 74 68 63 66 63	Zr (µg/g) 31 37 27 33 45 78 29 27 74 78 105 91 94 106 71	La (µg/g) 13 13 11 11 13 15 15 16 16 17 18 17 18 20 17	Ce (µg/g) 34 35 31 32 32 36 36 36 38 40 42 43 43 43 43 43 43 43	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7 19.2 20.1 25.0 18.9 25.8 26.8 20.2 26.1	Sm (µg/g) 2.39 2.09 2.53 2.07 2.19 2.82 1.87 3.62 2.63 3.62 3.72 4.31 3.42 4.48 3.62 2.79	Eu (μg/g) 0.58 0.48 0.49 0.49 0.49 0.48 0.64 0.75 0.74 0.83 0.62 0.92 0.52 0.54 0.86 0.86 0.86	Dy (µg/g) 2.5 2.5 2.1 2.1 2.2 2.4 2.2 2.5 2.7 2.6 2.9 3.1 3.1 3.8 3.2	Yb (µg/g) 1.1 1.2 1.1 1.2 1.2 1.2 1.2 1.2 1.3 1.3 1.3 1.3 1.3 1.3 1.5 2.0 1.4
Leg 181 181 181 181 181 181 181 181 181 18	Site 1123	Hole	e Core 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Core type S H H H H H H H H H H H H H H H H H H H	Section 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Top (cm) 4 9 21 29 42 49 58 68 890 102 109 122 128 142 4 9	Bottom (cm) 6 11 23 31 44 51 60 70 80 92 104 111 124 130 144 6 11	Depth (mbsf) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.78 0.78 0.90 1.02 1.09 1.22 1.28 1.42 1.59	Depth (mcd.new*) 0.04 0.09 0.21 0.29 0.42 0.49 0.58 0.68 0.78 0.90 1.02 1.09 1.22 1.28 1.42 1.54 1.54	Cu (µg/g) 36 38 34 28 31 45 32 29 31 29 28 32 25 17 30 22 29	Li (µg/g) 31 32 29 28 34 43 43 43 43 43 49 49 49 49 49 49 49 43 41 45 43 47	Ni (µg/g) 27 22 17 16 21 25 25 25 25 25 25 25 26 24 26 23 18 23 20 32	Sc (μg/g) 5 5 5 4 5 7 7 7 7 8 8 8 8 8 8 8 7 7 7 7 6 7 7 7 6 7	Sr (µg/g) 1075 1038 1127 1166 1103 925 830 789 686 598 562 639 602 445 638 573 821	V (µg/g) 41 41 37 34 45 62 62 58 62 58 62 58 64 48 38 52 42 67	Υ (µg/g) 19 19 18 17 19 19 18 19 20 21 22 22 24 22 24 28 22 24 28 22 25 19	Zn (μg/g) 50 51 45 65 66 68 71 70 69 74 68 63 66 64 63 66 64 73	Zr (µg/g) 31 37 33 45 78 29 27 74 78 29 27 74 105 91 94 106 71 136 77	La (µg/g) 13 13 11 11 13 15 15 16 16 16 16 17 18 17 18 20 17 18 20 17	Ce (µg/g) 34 35 31 32 36 36 36 38 40 42 43 43 43 43 43 43 43 37	Nd (µg/g) 12.1 12.5 13.0 11.0 11.2 17.2 13.8 15.7 19.2 20.1 25.0 18.9 25.8 26.8 20.2 26.1 19.1	Sm (μg/g) 2.39 2.53 2.07 2.19 2.82 1.87 3.62 2.63 3.62 3.72 4.31 3.42 4.48 3.62 3.72 4.31 3.42	Eu (μg/g) 0.58 0.48 0.49 0.49 0.49 0.48 0.64 0.75 0.74 0.83 0.62 0.92 0.52 0.52 0.54 0.86 0.84 0.75	Dy (µg/g) 2.5 2.5 2.1 2.1 2.2 2.4 2.2 2.5 2.7 2.6 2.9 3.1 3.1 3.8 3.2 3.2 3.2 2.6	Yb (µg/g) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.3 1.3 1.3 1.3 1.3 1.3 1.5 2.0 1.4 1.5 1.2

Notes: Mcd.new = revised meters composite depth (mcd) as described by Hall et al. (2001). Only a portion of this table appears here. The complete table is available in ASCII.

CHAPTER NOTES*

- N1. Weedon, G.P., and Hall, I.R., submitted. Mar. Geol.
- N2. Hall, I.R., McCave, I.N., Zahn, R., Carter, L., Knutz, P.C., and Weedon, G.P., submitted. *Paleoceanography*.
- N3. Carter, L., Shane, P., Alloway, B., Hall, I.R., and Harris, S.E., submitted. Geology.

*Dates reflect file corrections or revisions.