Supplemental Material

Note 1: Methods & Material

Bulk samples (2-3 mg) were collected from the surfaces of split cores during the cruise. The samples were freeze-dried and ground. Stable isotope analyses were conducted on automated gas source mass spectrometers in four laboratories. The Site 1262 and 1266 records were generated on an Autocarb prep system coupled to a PRISM Mass Spectrometer (MS) at the University of California, Santa Cruz. The Site 1263 record was generated on a Kiel device coupled to MAT 252 MS at Amsterdam University. The Site1267 record was generated on an Isocarb coupled to a PRISM MS at the University of Florida, and the Site 1265 record was generated on a Kiel device coupled to a MAT 251 MS at Bremen University. Analytical precision based on replicate analyses of standards was better than ±0.05‰ for $\delta^{13}C$. All values are reported relative to vPDB (Table S2).

Note 2: Biostratigraphy

Biohorizons N1 to N4 are delineated from the abundance patterns of the following selected taxa: the genus *Fasciculithus* (*Fasciculithus* spp.), *Rhomboaster calcitrapa* group (as defined by Raffi et al., in press), *Zygrhablithus bijugatus*. "Base" and "Top" indicates the first and last occurrence of the taxon (Table S4).

N1 - Decrease in diversification of *Fasciculithus* spp.

The uppermost Paleocene diversified fasciculith assemblage includes different species, as *F. thomasii*, *F. alanii*, rare *F. richardii* and *F. schaubii*, and abundant *F. tympaniformis* and *F. involutus*. At the onset of CIE fasciculiths show a drastic decrease in diversity and abundance compared to the pre-boundary situation. The two remaining species *(F. involutus* and *F. tympaniformis)* are consistently present (show peaks in abundance) throughout the CIE. This event is recorded in the known Paleocene-Eocene (P/E) boundary sections, from different areas at different latitudes (Backman, 1986; Monechi et al.,2000).

N2 - Base of *Rhomboaster calcitrapa* gr.

Within the CIE, *Rhomboaster* morphotypes belonging to the spined *R. calcitrapa* group and *R. cuspis* have the lowermost occurrence. *R. calcitrapa* gr. specimens have been consistently observed in most of the known P/E boundary sections (Cramer et al, 2000; Monechi et al., 2000; Aubry, 2001; Kahn and Aubry, 2004), and appears to represent a globally distributed evolutionary event (Raffi et al., in press).

N3 - Relative increase *Zygrhablithus bijugatus*/ decrease *Fasciculithus* (the "*Fasciculithus* spp./ *Zygrhablithus bijugatus* abundance cross-over")
The demise of fasciculiths occurs concomitantly with the initial rise (Site1263) or marked abundance increase (Sire 1262) of *Zygrhablithus bijugatus*. In sedimentary successions from the North and South Atlantic oceans, the Indian Ocean, the Shatsky Rise in subtropical Pacific Ocean, and from Tethyan area, this cross-over in abundance was consistently observed close to the P/E boundary (Bralower, 2002; Tremolada and Bralower, 2004, Gibbs et al., 2004) whereas *Z. bijugatus* is very rare or missing, implying that this particular early Eocene turnover is absent in equatorial regions (Raffi et al, in press).

N4 - Top of *Rhomboaster calcitrapa* gr.
The characteristic presence of spined *Rhomboaster* spp. is restricted to the CIE interval at sites1263 and 1262. Similar distribution range has been recorded in several P/E sections, from different areas at different latitudes (Cramer et al, 2000; Monechi et al., 2000; Aubry, 2001; Kahn and Aubry, 2004)

Figure S1 – Location map of the Walvis Ridge Sites recovered during ODP Leg 208 (Zachos et al., 2004) and DSDP Legs 73 and 74 (Moore et al., 1984).

Figure S2 - High resolution Fe concentration records or MS records for ODP sites 1262, 1263, 1265, 1266, and 1266. Fe concentration was determined using an XRF core scanner at Bremen University Core Repository.

Supplemental Citations:

1. Raffi, I., Backman, J., Pälike, H., 2005. Changes in calcareous nannofossil assemblages across the Paleocene/Eocene transition from the paleo-equatorial Pacific ocean. Palaeogeogr., Palaeoclimatol., Palaeoecol., in press.

2. Backman, J. 1986. Late Paleocene to Middle Eocene calcareous nannofossil biochronology from the Shatsky Rise, Walvis Ridge and Italy. Palaeogeogr., Palaeoclimatol., Palaeoecol. 57, 43-59.

3. Monechi, S., Angori, E., von Salis, K., 2000. Calcareous nannofossil turnover around the Paleocene/Eocene transition at Alamedilla (southern Spain). Bull Soc. Géol. France 171, 477-489.

4. Cramer, B. S., Miller, K.G., Aubry, M.-P., Olsson, R.K., Wright, J.D., Kent, D.V., Browning, J.V., 2000. The Bass River Section: an exceptional record of the LPTM event in a neritic setting. Bull. Geol. Soc. Fr. 170, 883-897.

5. Aubry, M.-P., 2001. Provincialism in the photic zone during the LPTM. In: Ash, A., Wing, S., (Eds.), Climate and Biota of the Early Paleogene. International Meeting, Powell, Abst., p. 6.

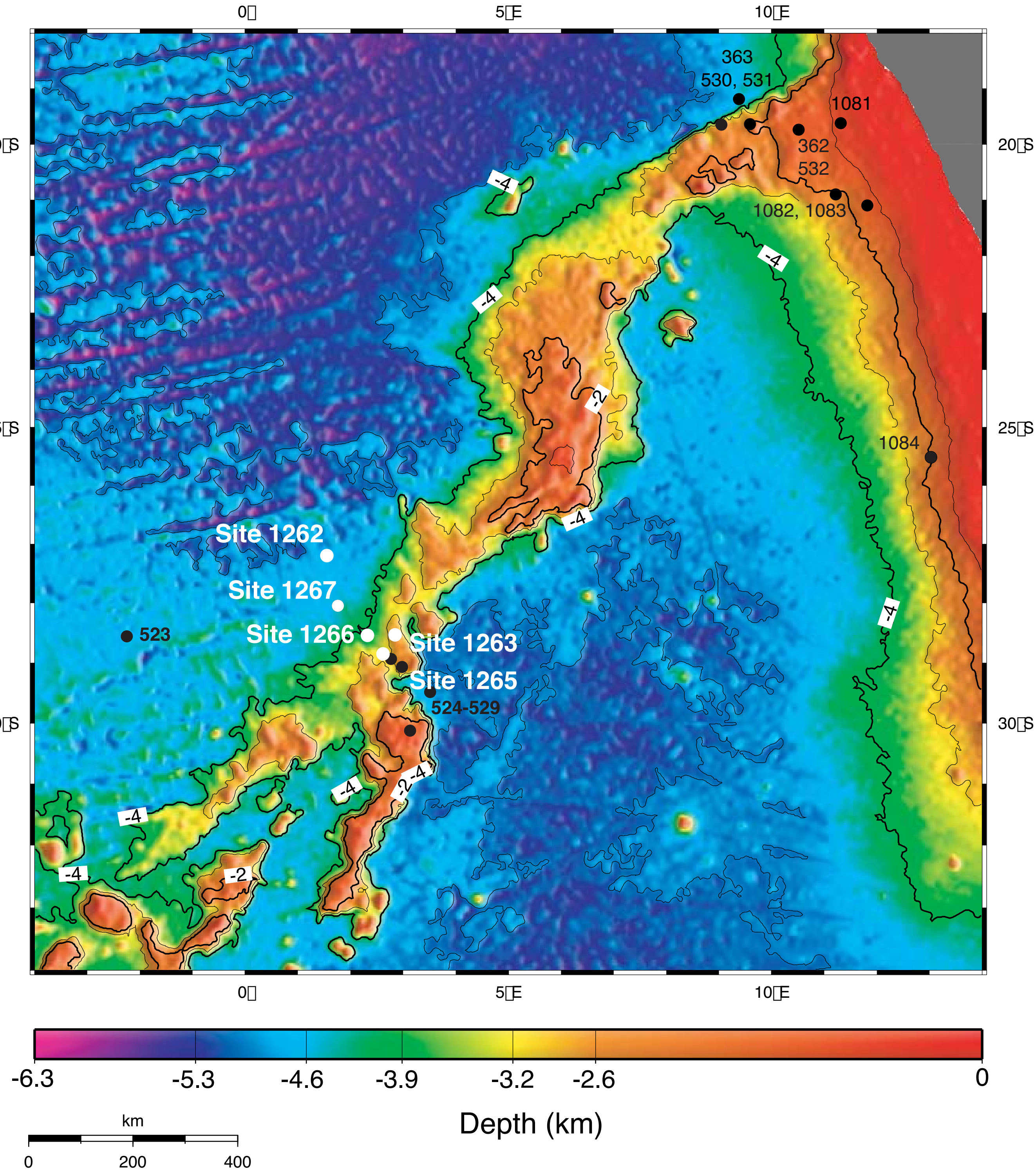
6. Kahn, A., Aubry, M.-P., 2004. Provincialism associated with the Paleocene/Eocene thermal maximum: Temporal constraint. Mar. Micropaleontol., 52, 117-131.

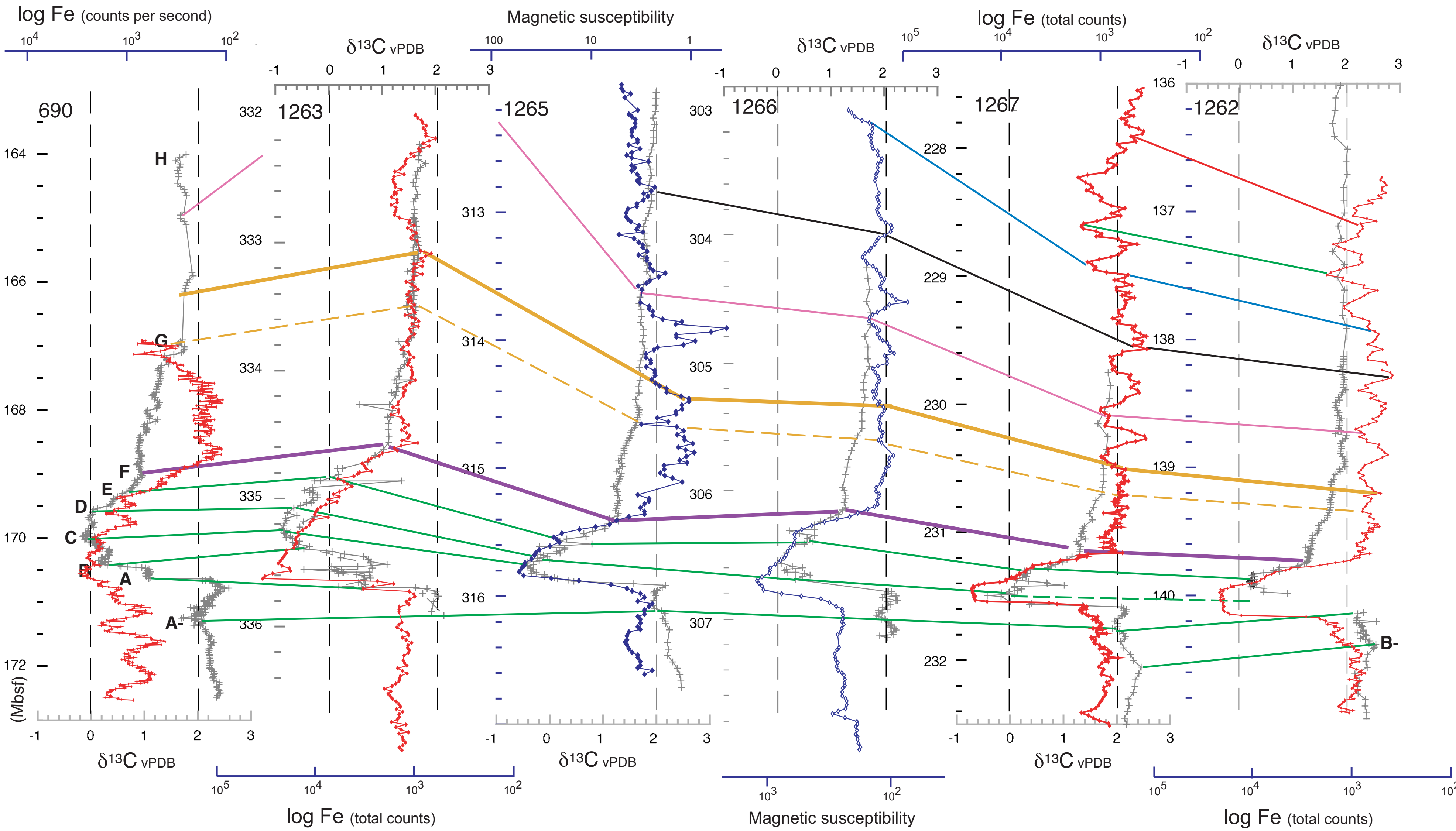
7. Bralower, T.J., 2002. Evidence of surface water oligotrophy during the Paleocene-Eocene thermal maximum: Nannofossil assemblage data from Ocean Drilling Progam Site 690, Maud Rise, Weddell Sea. Paleoceanography 17, 1-13.

8. Tremolada, F., Bralower, T.J., 2004. Nannofossil assemblage fluctuations during the Paleocene-Eocene thermal maximum at Sites 213 (Indian Ocean) and 401 (North Atlantic Ocean): paleoceanographic implications. Mar. Micropaleontol., 52, 107-116.

9. Gibbs, S.J., Bralower, T.J., Bybell, L.M., 2004. ICP XIII, Poster Abstracts, p.36.

Walvis Ridge





log Fe (counts per second)
δ13C vPDB
Magnetic susceptibility
δ13C vPDB
log Fe (total counts)
δ13C vPDB
690
1263
1265
1266
1267
1262
H
G
F
E
D
C
B
A
A-
B-
(Mbsf)
log Fe (total counts)
Magnetic susceptibility
log Fe (total counts)

Table S1
ODP Leg 208 PETM bulk carbonate weight % data

Leg	Site	H	Cor	T	Sc	Top(cm)	Depth (mbsf)	Depth (mcd)	CaCO3 (wt %)
208	**1262**	A	13	H	5	1	120.01	**138.12**	**92.5**
208	**1262**	A	13	H	5	10	120.10	**138.21**	**91.3**
208	**1262**	A	13	H	5	20	120.20	**138.31**	**94.7**
208	**1262**	A	13	H	5	30	120.30	**138.41**	**92.1**
208	**1262**	A	13	H	5	40	120.40	**138.51**	**91.7**
208	**1262**	A	13	H	5	50	120.50	**138.61**	**94.2**
208	**1262**	A	13	H	5	60	120.60	**138.71**	**93.1**
208	**1262**	A	13	H	5	70	120.70	**138.81**	**89.1**
208	**1262**	A	13	H	5	80	120.80	**138.91**	**93.0**
208	**1262**	A	13	H	5	90	120.90	**139.01**	**92.8**
208	**1262**	A	13	H	5	100	121.00	**139.11**	**91.2**
208	**1262**	A	13	H	5	110	121.10	**139.21**	**92.1**
208	**1262**	A	13	H	5	120	121.20	**139.31**	**92.4**
208	**1262**	A	13	H	5	130	121.30	**139.41**	**91.1**
208	**1262**	A	13	H	5	140	121.40	**139.51**	**91.9**
208	**1262**	A	13	H	5	148	121.48	**139.59**	**88.9**
208	**1262**	A	13	H	6	5	121.55	**139.66**	**89.1**
208	**1262**	A	13	H	6	10	121.60	**139.71**	**90.1**
208	**1262**	A	13	H	6	15	121.65	**139.76**	**78.9**
208	**1262**	A	13	H	6	20	121.70	**139.81**	**68.1**
208	**1262**	A	13	H	6	24	121.74	**139.85**	**48.7**
208	**1262**	A	13	H	6	27	121.77	**139.88**	**43.2**
208	**1262**	A	13	H	6	30	121.80	**139.91**	**27.7**
208	**1262**	A	13	H	6	32	121.82	**139.93**	**11.4**
208	**1262**	A	13	H	6	35	121.85	**139.96**	**0.8**
208	**1262**	A	13	H	6	37	121.87	**139.98**	**0.8**
208	**1262**	A	13	H	6	40	121.90	**140.01**	**0.4**
208	**1262**	A	13	H	6	43	121.93	**140.04**	**0.5**
208	**1262**	A	13	H	6	45	121.95	**140.06**	**0.7**
208	**1262**	A	13	H	6	47	121.97	**140.08**	**0.7**
208	**1262**	A	13	H	6	48	121.98	**140.09**	**0.8**
208	**1262**	A	13	H	6	49	121.99	**140.10**	**0.8**
208	**1262**	A	13	H	6	50	122.00	**140.11**	**0.7**
208	**1262**	A	13	H	6	51	122.01	**140.12**	**58.8**
208	**1262**	A	13	H	6	52	122.02	**140.13**	**72.0**
208	**1262**	A	13	H	6	55	122.05	**140.16**	**76.9**
208	**1262**	A	13	H	6	60	122.10	**140.21**	**82.9**
208	**1262**	A	13	H	6	65	122.15	**140.26**	**83.7**
208	**1262**	A	13	H	6	70	122.20	**140.31**	**84.6**
208	**1262**	A	13	H	6	75	122.25	**140.36**	**88.0**
208	**1262**	A	13	H	6	80	122.30	**140.41**	**86.0**
208	**1262**	A	13	H	6	85	122.35	**140.46**	**90.0**
208	**1262**	A	13	H	6	90	122.40	**140.51**	**90.5**
208	**1262**	A	13	H	6	100	122.50	**140.61**	**88.5**
208	**1262**	A	13	H	6	110	122.60	**140.71**	**86.5**
208	**1262**	A	13	H	6	120	122.70	**140.81**	**90.1**

Leg	Site	H	Cor	T	Sc	Top(cm)	depth (mbsf)	depth (mcd)	CaCO3 (wt%)
208	**1263**	C	14	H	2	1	283.91	**334.22**	**90.0**
208	**1263**	C	14	H	2	10	284.00	**334.31**	**90.6**
208	**1263**	C	14	H	2	20	284.10	**334.41**	**90.0**
208	**1263**	C	14	H	2	30	284.20	**334.51**	**89.9**
208	**1263**	C	14	H	2	40	284.30	**334.61**	**89.7**
208	**1263**	C	14	H	2	50	284.40	**334.71**	**85.2**
208	**1263**	C	14	H	2	60	284.50	**334.81**	**80.2**
208	**1263**	C	14	H	2	70	284.60	**334.91**	**75.7**
208	**1263**	C	14	H	2	76	284.66	**334.97**	**78.9**
208	**1263**	C	14	H	2	88	284.78	**335.09**	**59.9**
208	**1263**	C	14	H	2	94	284.84	**335.15**	**61.1**
208	**1263**	C	14	H	2	100	284.90	**335.21**	**54.6**
208	**1263**	C	14	H	2	104	284.94	**335.25**	**54.0**
208	**1263**	C	14	H	2	108	284.98	**335.29**	**49.5**
208	**1263**	C	14	H	2	112	285.02	**335.33**	**47.5**
208	**1263**	C	14	H	2	116	285.06	**335.37**	**47.7**
208	**1263**	C	14	H	2	120	285.10	**335.41**	**45.6**
208	**1263**	C	14	H	2	124	285.14	**335.45**	**43.7**
208	**1263**	C	14	H	2	130	285.20	**335.51**	**31.7**
208	**1263**	C	14	H	2	132	285.22	**335.53**	**32.5**
208	**1263**	C	14	H	2	134	285.24	**335.55**	**40.4**
208	**1263**	C	14	H	2	136	285.26	**335.57**	**42.2**
208	**1263**	C	14	H	2	138	285.28	**335.59**	**35.9**
208	**1263**	C	14	H	2	140	285.30	**335.61**	**15.8**
208	**1263**	C	14	H	2	142	285.32	**335.63**	**15.7**
208	**1263**	C	14	H	2	144	285.34	**335.65**	**1.3**
208	**1263**	C	14	H	2	146	285.36	**335.67**	**2.6**
208	**1263**	C	14	H	2	148	285.38	**335.69**	**4.2**
208	**1263**	C	14	H	2	149	285.39	**335.70**	**73.7**
208	**1263**	C	14	H	CC	1	285.41	**335.72**	**83.9**
208	**1263**	C	14	H	CC	2	285.42	**335.73**	**83.5**
208	**1263**	C	14	H	CC	3	285.43	**335.74**	**86.6**
208	**1263**	C	14	H	CC	5	285.45	**335.76**	**88.4**
208	**1263**	C	14	H	CC	7	285.47	**335.78**	**87.5**
208	**1263**	C	14	H	CC	9	285.49	**335.80**	**89.0**
208	**1263**	C	14	H	CC	11	285.51	**335.82**	**87.1**
208	**1263**	C	14	H	CC	13	285.53	**335.84**	**88.2**
208	**1263**	C	14	H	CC	15	285.55	**335.86**	**88.5**
208	**1263**	C	14	H	CC	17	285.57	**335.88**	**87.2**

Leg	Site	H	Cor	T	Sc	Top(cm)	Depth (mbsf)	Depth (mcd)	CaCO3 (wt %)
208	**1265**	A	29	H	6	70	273.58	**314.36**	**90.1**
208	**1265**	A	29	H	6	75	273.63	**314.41**	**92.4**
208	**1265**	A	29	H	6	80	273.68	**314.46**	**87.6**
208	**1265**	A	29	H	6	85	273.73	**314.51**	**85.7**
208	**1265**	A	29	H	6	90	273.78	**314.56**	**87.7**
208	**1265**	A	29	H	6	95	273.83	**314.61**	**89.9**
208	**1265**	A	29	H	6	100	273.88	**314.66**	**92.4**
208	**1265**	A	29	H	6	105	273.93	**314.71**	**91.3**
208	**1265**	A	29	H	6	110	273.98	**314.76**	**90.0**
208	**1265**	A	29	H	6	115	274.03	**314.81**	**94.0**
208	**1265**	A	29	H	6	120	274.08	**314.86**	**87.1**

208	**1265**	A	29	H	6	125	274.13	**314.91**	**88.6**
208	**1265**	A	29	H	6	130	274.18	**314.96**	**88.1**
208	**1265**	A	29	H	6	135	274.23	**315.01**	**88.8**
208	**1265**	A	29	H	6	140	274.28	**315.06**	**88.6**
208	**1265**	A	29	H	6	145	274.33	**315.11**	**88.8**
208	**1265**	A	29	H	6	150	274.38	**315.16**	**88.4**
208	**1265**	A	29	H	7	5	274.43	**315.21**	**90.0**
208	**1265**	A	29	H	7	10	274.48	**315.26**	**89.4**
208	**1265**	A	29	H	7	15	274.53	**315.31**	**90.3**
208	**1265**	A	29	H	7	20	274.58	**315.36**	**87.5**
208	**1265**	A	29	H	7	25	274.63	**315.41**	**84.1**
208	**1265**	A	29	H	7	30	274.68	**315.46**	**81.0**
208	**1265**	A	29	H	7	32	274.70	**315.48**	**81.1**
208	**1265**	A	29	H	7	34	274.72	**315.50**	**74.5**
208	**1265**	A	29	H	7	36	274.74	**315.52**	**70.3**
208	**1265**	A	29	H	7	38	274.76	**315.54**	**71.3**
208	**1265**	A	29	H	7	40	274.78	**315.56**	**74.4**
208	**1265**	A	29	H	7	42	274.80	**315.58**	**72.2**
208	**1265**	A	29	H	7	44	274.82	**315.60**	**76.7**
208	**1265**	A	29	H	7	46	274.84	**315.62**	**59.7**
208	**1265**	A	29	H	7	48	274.86	**315.64**	**64.5**
208	**1265**	A	29	H	7	50	274.88	**315.66**	**62.1**
208	**1265**	A	29	H	7	52	274.90	**315.68**	**58.3**
208	**1265**	A	29	H	7	54	274.92	**315.70**	**56.0**
208	**1265**	A	29	H	7	56	274.94	**315.72**	**53.3**
208	**1265**	A	29	H	7	58	274.96	**315.74**	**48.1**
208	**1265**	A	29	H	7	60	274.98	**315.76**	**48.7**
208	**1265**	A	29	H	7	62	275.00	**315.78**	**47.0**
208	**1265**	A	29	H	7	64	275.02	**315.80**	**42.0**
208	**1265**	A	29	H	7	66	275.04	**315.82**	**30.0**
208	**1265**	A	29	H	7	68	275.06	**315.84**	**34.6**
208	**1265**	A	29	H	7	70	275.08	**315.86**	**76.7**
208	**1265**	A	29	H	7	75	275.13	**315.91**	**87.2**
208	**1265**	A	29	H	7	80	275.18	**315.96**	**89.1**
208	**1265**	A	29	H	7	85	275.23	**316.01**	**90.1**
208	**1265**	A	29	H	7	90	275.28	**316.06**	**94.7**
208	**1265**	A	29	H	7	95	275.33	**316.11**	**89.6**
208	**1265**	A	29	H	7	100	275.38	**316.16**	**89.2**
208	**1265**	A	29	H	7	105	275.43	**316.21**	**89.6**
208	**1265**	A	29	H	7	110	275.48	**316.26**	**86.9**
208	**1265**	A	29	H	7	115	275.53	**316.31**	**84.2**
208	**1265**	A	29	H	7	120	275.58	**316.36**	**80.7**
208	**1265**	A	29	H	7	125	275.63	**316.41**	**86.7**
208	**1265**	A	29	H	7	130	275.68	**316.46**	**90.1**
208	**1265**	A	29	H	7	135	275.73	**316.51**	**92.4**
208	**1265**	A	29	H	7	140	275.78	**316.56**	**91.5**
208	**1265**	A	29	H	7	145	275.83	**316.61**	**90.3**
208	**1265**	A	29	H	7	150	275.88	**316.66**	**91.9**

Leg	Site	H	Cor	T	Sc	Top(cm)	Depth (mbsf)	Depth (mcd)	CaCO3 (wt %)
208	**1266**	C	17	H	2	10	264.59	**304.25**	**92.7**
208	**1266**	C	17	H	2	19	264.68	**304.34**	**93.7**
208	**1266**	C	17	H	2	28	264.77	**304.43**	**90.4**
208	**1266**	C	17	H	2	37	264.86	**304.52**	**88.6**
208	**1266**	C	17	H	2	46	264.95	**304.61**	**93.2**
208	**1266**	C	17	H	2	55	265.04	**304.70**	**92.1**
208	**1266**	C	17	H	2	64	265.13	**304.79**	**92.4**
208	**1266**	C	17	H	2	73	265.22	**304.88**	**92.5**
208	**1266**	C	17	H	2	82	265.31	**304.97**	**92.2**
208	**1266**	C	17	H	2	88	265.37	**305.03**	**89.3**
208	**1266**	C	17	H	2	94	265.43	**305.09**	**93.8**
208	**1266**	C	17	H	2	100	265.49	**305.15**	**87.7**
208	**1266**	C	17	H	2	106	265.55	**305.21**	**89.5**
208	**1266**	C	17	H	2	112	265.61	**305.27**	**90.2**
208	**1266**	C	17	H	2	118	265.67	**305.33**	**91.7**
208	**1266**	C	17	H	2	124	265.73	**305.39**	**91.9**
208	**1266**	C	17	H	2	130	265.79	**305.45**	**91.2**
208	**1266**	C	17	H	2	136	265.85	**305.51**	**90.7**
208	**1266**	C	17	H	2	142	265.91	**305.57**	**90.3**
208	**1266**	C	17	H	2	148	265.97	**305.63**	**90.8**
208	**1266**	C	17	H	3	4	266.03	**305.69**	**92.0**
208	**1266**	C	17	H	3	10	266.09	**305.75**	**91.8**
208	**1266**	C	17	H	3	16	266.15	**305.81**	**91.3**
208	**1266**	C	17	H	3	22	266.21	**305.87**	**90.1**
208	**1266**	C	17	H	3	32	266.31	**305.97**	**90.5**
208	**1266**	C	17	H	3	35	266.34	**306.00**	**89.4**
208	**1266**	C	17	H	3	38	266.37	**306.03**	**88.8**
208	**1266**	C	17	H	3	41	266.40	**306.06**	**89.3**
208	**1266**	C	17	H	3	44	266.43	**306.09**	**90.3**
208	**1266**	C	17	H	3	47	266.46	**306.12**	**88.5**
208	**1266**	C	17	H	3	50	266.49	**306.15**	**86.5**
208	**1266**	C	17	H	3	53	266.52	**306.18**	**82.0**
208	**1266**	C	17	H	3	56	266.55	**306.21**	**82.6**
208	**1266**	C	17	H	3	59	266.58	**306.24**	**77.8**
208	**1266**	C	17	H	3	62	266.61	**306.27**	**76.8**
208	**1266**	C	17	H	3	65	266.64	**306.30**	**70.7**
208	**1266**	C	17	H	3	68	266.67	**306.33**	**68.0**
208	**1266**	C	17	H	3	71	266.70	**306.36**	**69.9**
208	**1266**	C	17	H	3	74	266.73	**306.39**	**70.4**
208	**1266**	C	17	H	3	77	266.76	**306.42**	**66.7**
208	**1266**	C	17	H	3	80	266.79	**306.45**	**63.6**
208	**1266**	C	17	H	3	83	266.82	**306.48**	**61.7**
208	**1266**	C	17	H	3	86	266.85	**306.51**	**60.4**
208	**1266**	C	17	H	3	89	266.88	**306.54**	**55.5**
208	**1266**	C	17	H	3	90	266.89	**306.55**	**50.5**
208	**1266**	C	17	H	3	92	266.91	**306.57**	**44.8**
208	**1266**	C	17	H	3	92	266.91	**306.57**	**47.8**
208	**1266**	C	17	H	3	94	266.93	**306.59**	**43.2**
208	**1266**	C	17	H	3	96	266.95	**306.61**	**41.7**
208	**1266**	C	17	H	3	98	266.97	**306.63**	**41.8**
208	**1266**	C	17	H	3	100	266.99	**306.65**	**27.3**
208	**1266**	C	17	H	3	102	267.01	**306.67**	**8.5**

208	1266	C	17	H	3	104	267.03	306.69	1.0
208	1266	C	17	H	3	106	267.05	306.71	0.4
208	1266	C	17	H	3	108	267.07	306.73	0.5
208	1266	C	17	H	3	110	267.09	306.75	0.5
208	1266	C	17	H	3	112	267.11	306.77	14.6
208	1266	C	17	H	3	114	267.13	306.79	80.4
208	1266	C	17	H	3	116	267.15	306.81	85.0
208	1266	C	17	H	3	118	267.17	306.83	79.2
208	1266	C	17	H	3	120	267.19	306.85	84.2
208	1266	C	17	H	3	122	267.21	306.87	83.0
208	1266	C	17	H	3	124	267.23	306.89	83.8
208	1266	C	17	H	3	126	267.25	306.91	83.4
208	1266	C	17	H	3	128	267.27	306.93	83.3
208	1266	C	17	H	3	130	267.29	306.95	82.8

Leg	Site	H	Cor	T	Sc	Top(cm)	Depth (mbsf)	Depth (mcd)	CaCO3 (wt %)
208	1267	B	23	H	3	0	204.7	230.53	91.21
208	1267	B	23	H	3	10	204.8	230.63	88.46
208	1267	B	23	H	3	20	204.9	230.73	88.80
208	1267	B	23	H	3	30	205	230.83	89.80
208	1267	B	23	H	3	40	205.1	230.93	90.63
208	1267	B	23	H	3	45	205.15	230.98	89.30
208	1267	B	23	H	3	50	205.2	231.03	87.05
208	1267	B	23	H	3	55	205.25	231.08	90.38
208	1267	B	23	H	3	60	205.3	231.13	89.88
208	1267	B	23	H	3	65	205.35	231.18	84.05
208	1267	B	23	H	3	68	205.38	231.21	79.80
208	1267	B	23	H	3	70	205.4	231.23	77.80
208	1267	B	23	H	3	72	205.42	231.25	70.14
208	1267	B	23	H	3	74	205.44	231.27	56.56
208	1267	B	23	H	3	76	205.46	231.29	56.39
208	1267	B	23	H	3	78	205.48	231.31	53.23
208	1267	B	23	H	3	80	205.5	231.33	53.73
208	1267	B	23	H	3	82	205.52	231.35	48.06
208	1267	B	23	H	3	84	205.54	231.37	42.23
208	1267	B	23	H	3	86	205.56	231.39	38.07
208	1267	B	23	H	3	88	205.58	231.41	20.49
208	1267	B	23	H	3	90	205.6	231.43	6.16
208	1267	B	23	H	3	92	205.62	231.45	5.33
208	1267	B	23	H	3	94	205.64	231.47	1.83
208	1267	B	23	H	3	96	205.66	231.49	0.92
208	1267	B	23	H	3	98	205.68	231.51	1.17
208	1267	B	23	H	3	100	205.7	231.53	1.42
208	1267	B	23	H	3	102	205.72	231.55	52.06
208	1267	B	23	H	3	104	205.74	231.57	80.13
208	1267	B	23	H	3	106	205.76	231.59	80.97
208	1267	B	23	H	3	108	205.78	231.61	81.63
208	1267	B	23	H	3	110	205.8	231.63	78.30
208	1267	B	23	H	3	115	205.85	231.68	83.88
208	1267	B	23	H	3	120	205.9	231.73	87.13
208	1267	B	23	H	3	130	206	231.83	83.47
208	1267	B	23	H	3	140	206.1	231.93	85.97
208	1267	B	23	H	3	150	206.2	232.03	87.63

Table S2 - Bulk sediment carbon isotope data (‰ vPDB)

1262A mcd	1262A 13C	1263C/D mcd	1263C/D 13C	1265A mcd	1265A 13C	1266C mcd	1266C 13C	1267A mcd	1267A 13C
135.11	1.89	332.23	1.71	311.61	1.95	304.25	1.67	229.75	1.85
135.21	1.91	332.26	1.75	311.66	1.94	304.34	1.71	229.85	1.89
135.31	1.90	332.29	1.71	311.71	1.93	304.43	1.73	229.95	1.87
135.41	1.90	332.32	1.69	311.76	1.91	304.52	1.68	230.05	1.78
135.51	1.89	332.35	1.70	311.81	1.90	304.61	1.75	230.15	1.65
135.61	1.83	332.38	1.83	311.86	1.91	304.70	1.74	230.25	1.84
135.71	1.86	332.41	1.73	311.91	1.97	304.79	1.63	230.35	1.81
135.81	1.88	332.44	1.67	311.96	1.92	304.88	1.70	230.45	1.73
135.91	1.76	332.47	1.64	312.01	1.98	304.97	1.68	230.50	1.76
136.01	1.90	332.50	1.66	312.06	2.00	305.03	1.71	230.55	1.75
136.11	1.81	332.53	1.59	312.11	2.00	305.09	1.63	230.60	1.75
136.21	1.79	332.56	1.63	312.16	1.98	305.15	1.61	230.65	1.74
136.31	1.75	332.62	1.67	312.21	1.99	305.21	1.61	230.70	1.73
136.41	1.78	332.65	1.63	312.26	1.95	305.27	1.64	230.75	1.62
136.51	2.03	332.68	1.60	312.31	1.97	305.33	1.62	230.80	1.57
136.61	2.00	332.74	1.61	312.36	1.95	305.39	1.60	230.85	1.50
136.71	2.02	332.77	1.61	312.41	1.95	305.45	1.58	230.90	1.55
136.81	1.95	332.80	1.59	312.46	1.95	305.51	1.59	230.95	1.40
136.91	1.96	332.81	1.62	312.51	1.92	305.57	1.49	230.97	1.37
137.01	1.97	332.82	1.60	312.56	1.88	305.63	1.45	230.99	1.38
137.11	1.85	332.83	1.64	312.61	1.86	305.69	1.38	231.01	1.34
137.21	1.91	332.84	1.60	312.66	1.89	305.75	1.34	231.03	1.34
137.31	1.75	332.86	1.60	312.71	1.91	305.81	1.30	231.05	1.42
137.41	1.97	332.87	1.66	312.76	1.87	305.87	1.27	231.07	1.25
137.51	1.83	332.90	1.65	312.81	1.85	305.97	1.24	231.09	1.29
137.61	1.97	332.92	1.62	312.86	1.91	306.00	1.26	231.11	1.33
137.71	1.94	332.93	1.66	312.91	1.92	306.03	1.29	231.13	1.32
137.81	1.93	332.95	1.64	312.96	1.89	306.06	1.27	231.15	1.31
137.91	2.01	332.96	1.67	313.01	1.86	306.09	1.25	231.17	1.31
138.13	1.95	332.98	1.62	313.06	1.81	306.12	1.28	231.19	1.17
138.15	1.95	332.99	1.68	313.11	1.77	306.15	1.22	231.21	1.07
138.17	1.94	333.01	1.65	313.16	1.78	306.18	1.15	231.23	0.98
138.19	1.95	333.02	1.70	313.21	1.78	306.21	1.01	231.25	0.85
138.21	1.89	333.02	1.70	313.26	1.83	306.24	0.81	231.26	0.78
138.23	1.94	333.04	1.59	313.31	1.81	306.27	0.69	231.27	0.71
138.25	1.94	333.05	1.70	313.36	1.77	306.30	0.69	231.28	0.73
138.27	1.92	333.07	1.60	313.41	1.83	306.31	0.23	231.29	0.40
138.29	1.96	333.08	1.67	313.46	1.83	306.33	0.41	231.30	0.28
138.31	1.97	333.10	1.60	313.51	1.90	306.35	0.69	231.31	0.27
138.33	1.96	333.11	1.69	313.56	1.77	306.37	0.57	231.32	0.33
138.35	1.95	333.13	1.62	313.61	1.73	306.39	0.68	231.33	0.25
138.37	1.94	333.14	1.67	313.66	1.70	306.41	0.49	231.34	0.31
138.39	1.99	333.16	1.59	313.71	1.68	306.42	0.32	231.35	0.24
138.41	1.94	333.17	1.62	313.76	1.72	306.48	0.16	231.36	0.15
138.43	1.91	333.19	1.63	313.81	1.73	306.51	0.15	231.37	0.12
138.45	1.86	333.20	1.62	313.86	1.71	306.54	0.05	231.38	0.35

Table S2 - Bulk sediment carbon isotope data (‰ vPDB)

1262A mcd	1262A 13C	1263C/D mcd	1263C/D 13C	1265A mcd	1265A 13C	1266C mcd	1266C 13C	1267A mcd	1267A 13C
138.47	1.87	333.22	1.48	313.91	1.77	306.57	0.08	231.39	0.68
138.49	1.80	333.22	1.59	313.96	1.76	306.59	0.29	231.40	0.70
138.51	1.83	333.23	1.63	314.01	1.74	306.60	0.46	231.41	1.02
138.53	1.79	333.26	1.61	314.06	1.79	306.61	0.18	231.42	0.09
138.55	1.84	333.29	1.57	314.11	1.75	306.62	0.14	231.43	0.08
138.57	1.87	333.32	1.60	314.16	1.71	306.63	0.21	231.44	0.22
138.59	1.83	333.35	1.60	314.21	1.69	306.64	0.33	231.45	0.15
138.61	1.91	333.38	1.59	314.26	1.71	306.65	0.52	231.46	0.00
138.63	1.88	333.41	1.61	314.31	1.70	306.66	0.63	231.47	-0.15
138.65	1.88	333.42	1.51	314.36	1.68	306.67	0.46	231.48	0.10
138.67	1.88	333.44	1.59	314.41	1.68	306.69	0.34	231.49	-0.42
138.69	1.85	333.47	1.59	314.46	1.61	306.78	2.05	231.50	-0.16
138.71	1.90	333.50	1.64	314.51	1.64	306.78	2.08	231.51	IC
138.73	1.81	333.53	1.63	314.52	1.66	306.78	2.09	231.52	IC
138.75	2.01	333.56	1.60	314.54	1.69	306.79	2.13	231.53	IC
138.77	1.99	333.57	1.51	314.56	1.67	306.80	2.13	231.54	0.01
138.79	1.93	333.59	1.62	314.56	1.67	306.81	2.01	231.55	0.40
138.81	1.89	333.62	1.61	314.58	1.69	306.82	2.23	231.56	0.37
138.83	1.91	333.65	1.59	314.60	1.65	306.83	1.97	231.57	1.36
138.85	1.92	333.68	1.60	314.62	1.65	306.85	2.21	231.58	2.09
138.87	1.89	333.71	1.59	314.64	1.63	306.85	2.24	231.59	2.13
138.89	1.89	333.74	1.56	314.66	1.62	306.87	2.07	231.60	2.19
138.91	1.93	333.77	1.31	314.68	1.60	306.89	2.11	231.61	2.13
138.93	1.97	333.77	1.49	314.70	1.55	306.91	1.97	231.62	2.18
138.95	1.98	333.86	1.44	314.72	1.52	306.93	2.06	231.63	2.16
138.97	1.94	333.87	1.41	314.74	1.53	306.94	1.88	231.64	2.15
138.99	1.98	333.92	1.49	314.76	1.50	306.95	1.88	231.65	2.11
139.01	1.87	333.95	1.43	314.78	1.48	306.95	1.98	231.67	2.04
139.03	1.88	333.98	1.36	314.80	1.45	306.96	1.94	231.69	1.97
139.05	1.79	334.01	1.31	314.82	1.44	306.97	1.86	231.71	2.02
139.07	1.77	334.04	1.33	314.84	1.40	306.98	1.89	231.73	2.02
139.09	1.77	334.07	1.57	314.86	1.40	306.99	1.99	231.75	1.93
139.11	1.72	334.10	1.28	314.88	1.41	307.00	1.95	231.77	2.06
139.13	1.72	334.13	1.31	314.90	1.35	307.01	2.03	231.79	2.14
139.15	1.70	334.16	1.28	314.92	1.36	307.02	2.05	231.81	2.17
139.17	1.71	334.17	1.19	314.94	1.30	307.03	2.09	231.83	2.15
139.19	1.75	334.19	1.26	314.96	1.36	307.04	2.13	231.85	2.08
139.21	1.74	334.26	1.15	314.98	1.38	307.05	2.13	231.90	2.14
139.23	1.72	334.31	1.21	315.00	1.31	307.06	2.12	231.95	2.26
139.25	1.69	334.36	1.11	315.02	1.26	307.07	2.18	232.00	2.32
139.27	1.71	334.36	1.17	315.04	1.35	307.08	2.20	232.05	2.46
139.29	1.71	334.41	1.13	315.06	1.34	307.09	2.22	232.10	2.42
139.31	1.71	334.46	1.12	315.08	1.31	307.10	2.18	232.15	2.35
139.33	1.68	334.51	1.14	315.10	1.29	307.11	2.14	232.20	2.35
139.35	1.68	334.56	1.13	315.12	1.28	307.12	2.16	232.25	2.32
139.37	1.65	334.61	1.03	315.14	1.20	307.13	1.91	232.30	2.22

Table S2 - Bulk sediment carbon isotope data (‰ vPDB)

1262A mcd	1262A 13C	1263C/D mcd	1263C/D 13C	1265A mcd	1265A 13C	1266C mcd	1266C 13C	1267A mcd	1267A 13C
139.39	1.65	334.66	0.88	315.16	1.25	307.14	2.05	232.35	2.24
139.41	1.60	334.71	0.74	315.18	1.28			232.40	2.21
139.43	1.54	334.76	0.17	315.21	1.28			232.45	2.15
139.45	1.48	334.76	0.26	315.25	1.31			232.50	2.19
139.47	1.49	334.81	0.20	315.27	1.28			232.55	2.15
139.49	1.48	334.86	-0.27	315.29	1.28			232.60	2.22
139.51	1.46	334.86	-0.14	315.31	1.27			232.65	2.37
139.53	1.38	334.91	-0.30	315.33	1.24			232.70	2.34
139.55	1.38	334.93	-0.45	315.35	1.29			232.75	2.34
139.57	1.36	334.93	-0.29	315.37	1.28				
139.59	1.37	334.95	-0.34	315.39	1.13				
139.61	1.34	334.95	-0.28	315.41	1.29				
139.62	1.24	334.97	-0.21	315.43	1.12				
139.63	1.33	334.99	-0.29	315.45	1.03				
139.64	1.36	334.99	-0.20	315.47	1.04				
139.65	1.30	335.01	-0.27	315.49	0.81				
139.66	1.28	335.03	-0.41	315.51	0.65				
139.67	1.32	335.03	-0.31	315.53	0.69				
139.68	1.33	335.05	-0.52	315.55	0.33				
139.69	1.28	335.07	-0.64	315.57	0.20				
139.70	1.28	335.11	-0.77	315.59	0.80				
139.71	1.31	335.11	-0.76	315.61	-0.18				
139.72	1.30	335.13	-0.59	315.62	0.29				
139.73	1.28	335.15	-0.80	315.63	0.29				
139.74	1.25	335.17	-0.78	315.64	0.18				
139.75	1.22	335.19	-0.81	315.65	0.14				
139.76	1.12	335.21	-0.84	315.66	0.20				
139.77	1.09	335.23	-0.87	315.67	-0.16				
139.78	0.76	335.25	-0.78	315.68	-0.11				
139.79	0.73	335.27	-0.83	315.69	-0.03				
139.80	0.64	335.29	-0.71	315.70	-0.23				
139.81	0.75	335.31	-0.67	315.71	0.00				
139.82	0.44	335.33	-0.53	315.72	-0.19				
139.83	0.25	335.35	-0.60	315.73	-0.40				
139.84	0.23	335.37	-0.35	315.74	-0.46				
139.85	0.28	335.39	-0.45	315.75	-0.30				
139.87	0.28	335.41	0.07	315.76	-0.41				
139.88	0.20	335.43	0.30	315.77	-0.35				
139.89	0.19	335.45	0.67	315.78	-0.36				
139.90	0.32	335.47	0.75	315.79	-0.30				
139.91	0.28	335.47	0.76	315.80	-0.35				
139.92	0.26	335.49	0.80	315.81	-0.25				
139.93	0.22	335.51	1.10	315.82	-0.33				
139.94	0.46	335.53	0.55	315.83	-0.09				
139.97	0.46	335.55	0.25	315.84	-0.09				
139.98	0.90	335.57	0.26	315.85	0.09				

Table S2 - Bulk sediment carbon isotope data (‰ vPDB)

1262A mcd	1262A 13C	1263C/D mcd	1263C/D 13C	1265A mcd	1265A 13C	1266C mcd	1266C 13C	1267A mcd	1267A 13C
139.99	IC	335.57	0.29	315.86	0.16				
140.00	IC	335.59	0.53	315.87	0.35				
140.01	IC	335.61	0.68	315.88	0.46				
140.02	IC	335.61	0.79	315.90	1.57				
140.03	IC	335.63	0.80	315.91	2.18				
140.04	IC	335.65	0.68	315.93	2.12				
140.05	IC	335.69	0.20	315.95	2.03				
140.06	IC	335.71	1.85	315.96	1.97				
140.07	IC	335.71	1.97	315.97	1.95				
140.08	IC	335.73	1.71	315.99	1.99				
140.09	IC	335.75	1.59	316.03	1.96				
140.10	IC	335.75	1.77	316.07	1.95				
140.11	IC	335.77	1.83	316.09	1.97				
140.12	IC	335.79	1.91	316.11	2.10				
140.13	2.32	335.81	1.97	316.13	2.17				
140.14	2.22	335.83	2.01	316.17	2.12				
140.17	2.21	335.85	2.10	316.19	2.17				
140.18	2.20	335.87	2.03	316.21	2.18				
140.19	2.20	335.89	2.07	316.26	2.25				
140.20	2.57	335.91	2.10	316.36	2.21				
140.21	2.19	335.92	2.17	316.41	2.23				
140.22	2.25	335.94	2.07	316.46	2.22				
140.23	2.29	335.96	2.03	316.51	2.31				
140.24	2.31	335.98	2.02	316.56	2.40				
140.25	2.28	336.00	2.03	316.61	2.44				
140.26	2.32	336.02	1.94	316.66	2.46				
140.27	2.32			316.71	2.47				
140.28	2.33								
140.29	2.20								
140.30	2.36								
140.31	2.37								
140.32	2.33								
140.33	2.26								
140.34	2.36								
140.35	2.45								
140.36	2.43								
140.37	2.43								
140.38	2.56								
140.39	2.52								
140.40	2.53								
140.41	2.51								
140.46	2.41								
140.51	2.37								
140.56	2.40								
140.61	2.17								
140.66	2.26								

Table S2 - Bulk sediment carbon isotope data (‰ vPDB)

1262A mcd	1262A 13C	1263C/D mcd	1263C/D 13C	1265A mcd	1265A 13C	1266C mcd	1266C 13C	1267A mcd	1267A 13C
140.71	2.21								
140.76	2.22								
140.81	2.36								
140.86	2.36								
140.91	2.39								
140.96	2.39								
141.01	2.33								
141.06	2.42								
141.11	2.45								
141.16	2.48								
141.21	2.52								
141.26	2.53								
141.31	2.50								
141.36	2.47								
141.41	2.49								
141.46	2.44								
141.51	2.45								
141.56	2.43								
141.61	2.44								
141.66	2.43								
141.71	2.39								
141.77	2.42								
141.82	2.48								
141.87	2.57								
141.92	2.63								
141.97	2.66								
142.02	2.72								

IC-insufficient carbonate

Table S3: Calcareous Nannofossil Biohorizons

biohorizon		1263 (mcd)	1263 samples	1262 (mcd)	1262 samples
N4	Top R.calcitrapa gr.	334.52	1263C-14H-2,31-32	139.71	1262B-15H-3,28-29
		334.7	1263C-14H-2,49-50	139.72	1262B-15H-3,29-30
N4a	decrease R.calcitrapa gr.	334.71	1263C-14H-2,50-51	139.76	1262B-15H-3,33-34
		334.72	1263C-14H-2,51-52	139.77	1262B-15H-3,34-35
N3	X fasculiths/Z.bijugatus	334.77	1263C-14H-2,56-57	139.77	1262B-15H-3,34-35
	(decrease fasciculiths)	334.8	1263C-14H-2,59-60	139.79	1262B-15H-3,36-37
N3a	beginning decrease in abundance of fasciculiths	334.9	1263C-14H-2,70-71	139.83	1262B-15H-3,50-51
N2	Base R.calcitrapa gr.	335.25	1263C-14H-2,104-105	140.01	1262B-15H-3,58-59
		335.26	1263C-14H-2,105-106	140.02	1262B-15H-3,59-60
N1a	2nd Decrease in diversity	335.26	1263C-14H-2,107-108	barren	interval
	of fasciculiths	335.28	1263C-14H-2,108-109		
N1	1st Decrease in diversity	335.6	1263D-4H-1,67-68	140.145	1262B-15H-3,73
	of fasciculiths	335.61	1263D-4H-1,68-69	140.15	1262B-15H-3,72-74

Table S4 – Carbon isotope tie points from ODP site 690 and assigned ages used for correlation and dating the leg 208 P-E boundary sections.

Tie Points	**690 mbsf**	690 Age (±kyr Roehl00)*	690 Age (±kyr F&E03)*	1262A (Mcd)	1263B, C, D (Mcd)	1265 (Mcd)	1266 (Mcd)	1267A (Mcd)	1267B (Mcd)
MS tie point**				138.08	331.19	312.64	303.84	229.40	227.35
H	**166.13**	230	183	139.20	333.14	314.50	305.37	230.50	230.46
G	**167.12**	218	118.6	139.40	333.73	314.70	305.60	230.75	230.66
F	**169.05**	108	100.15	139.73	334.56	315.39	306.13	231.15	231.15
E	**169.39**	88	93.6	139.83	334.75	315.56	306.44	231.29	231.29
D	**169.56**	76	90.2	139.92	335.10	315.70	306.56	231.46	231.41
C***	**170.02**	47.2	67	139.99	335.22	315.75	306.64	231.48	231.46
B***	**170.33**	28.4	37.48	140.04	335.39	315.88	306.69	231.52	231.49
A	**170.63**	1	1	140.11	335.68	315.88	306.77	231.56	231.54
PEB	**170.64**	0	0	140.12	335.69	315.89	306.78	231.57	231.55
A-	**171.24**	-34	-62	140.15	336.00	316.05	306.97	231.73	231.68
B-	**172.81**	-125		141.15	337.82	317.69	308.43	232.82	231.98
MS tie point**				142.58	340.42		310.51	234.38	236.28

The depths are in meters composite depth (Mcd)

* Time (kyr) at ODP Site 690 relative to the P-E boundary set to 55 Ma. Ages are from Roehl et al. (2000) and Farley and Eltgroth (2003).
For tie points G & H, because of the large differences in the two age models, we used the means for the 208 age model.

** Magnetic susceptibility tie points are from ODP Leg 208 Initial Reports volume (Zachos, Kroon, Blum et al., 2004)

***For Sites 1262, 1266, & 1267, the depths of tie points C & B were estimated by linear interpolation between points D & A using the temporal relationship established at Site 1263.