Table DR1 The total organic content (TOC), carbonate content and $\delta^{13}C_{VPDB}$ values for core 42/11 samples. For replicate stable isotope analyses (n=2) the mean value is reported together with the range between the mean value and recorded values.

Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰
181.52	7.52	2.19	-27.2	217.00	1.12	14.80	-25.9	251.00	5.97	1.85	-26.2
183.08	2.05	2.70	-27.1	218.00	5.12	6.01	-27.7	252.00	11.17	2.67	-24.0
183.15	1.21	2.43	-26.5	219.00	0.94	1.99	-25.1	253.00	9.90	4.08	-24.3
184.09	1.63	1.82	-27.9	220.00	0.74	19.00	-27.4	254.00	4.84	2.93	-25.6
184.98	2.76	2.26	-27.3	221.00	13.13	5.37	-28.0	255.00	12.64	0.08	-27.7
186.80	7.27	3.58	-28.7±0.5	222.00	2.66	3.32	-24.6	256.00	3.95	4.37	-25.2
188.00	1.01	2.12	-28.1	223.00	3.50	2.34	-27.4	257.00	5.76	4.90	-27.7
189.00	0.60	2.07	-27.6	224.00	12.25	8.51	-29.5	258.00	4.74	2.76	-24.9
189.80	2.24	5.23	-25.8	225.00	4.53	4.60	-29.7	259.00	6.90	4.27	-25.8
191.00	0.77	3.02	-26.5	226.00	11.59	7.75	-26.7	260.00	4.15	4.57	-26.9
192.00	1.60	2.43	-26.7	227.00	11.68	5.22	-24.9	261.60	2.97	2.44	-25.2
193.40	5.65	2.31	-29.2	228.00	7.22	6.07	-25.4	262.78	0.29	9.35	-26.4
193.74	1.00	2.21	-27.8	229.00	2.44	10.61	-26.1	263.36	2.92	1.44	-22.0
194.50	0.97	2.43	-27.5	230.00	1.98	5.39	-27.1	264.50	2.66	1.41	-24.6
195.50	1.13	1.39	-25.2	231.00	10.75	5.55	-26.0	265.49	5.27	0.79	-23.9
197.10	0.89	2.13	-26.6	232.00	1.46	3.43	-26.2	266.47	3.46	3.53	-23.0
198.00	1.14	1.94	-27.6	233.00	1.73	1.83	-26.3	267.50	8.30	0.14	-26.4
199.00	0.79	8.80	-25.4	234.00	1.86	2.33	-26.7	268.58	20.35	0.36	-19.8±0.8
200.00	2.74	3.94	-27.5	235.00	5.31	2.92	-26.8	269.50	7.91	6.52	-26.0
202.00	3.12	4.15	-25.2	236.00	1.44	8.41	-27.7	271.00	12.38	3.57	-21.4
203.00	9.53	6.26	-32.4	237.00	10.12	4.91	-29.8	272.00	19.66	8.36	-20.3
204.00	6.38	3.94	-30.8	238.00	2.02	0.13	-27.8	273.00	10.66	7.47	-23.2
205.00	1.96	6.73	-25.8	239.00	0.78	4.72	-26.1	274.00	12.84	8.25	-25.1
205.75	1.37	2.28	-27.0	240.00	2.47	0.70	-27.9	275.00	13.37	3.12	-21.6
207.00	2.52	2.55	-23.9	241.00	0.74	3.00	-25.7	276.00	11.46	9.91	-21.4
208.10	9.88	3.24	-26.4	242.00	1.25	1.84	-26.6	277.00	14.23	1.87	-21.6
209.00	5.10	3.04	-25.3	243.00	6.98	2.42	-27.3	278.00	27.65	10.51	-23.1
210.00	0.76	2.84	-25.3	244.03	0.79	11.88	-22.9	279.00	13.06	7.36	-23.7
211.00	13.42	14.25	-27.6	245.06	2.88	0.40	-26.1	280.00	15.19	5.71	-22.3
212.00	3.68	3.49	-28.8	246.00	14.78	4.47	-28.4	281.00	18.40	10.02	-24.7
213.00	4.79	4.88	-29.4	247.00	0.34	17.70	-25.6	282.00	14.95	3.92	-25.3
214.00	14.00	9.98	-28.5	248.00	5.53	3.74	-26.0	283.00	13.01	3.47	-21.0
215.00	11.90	6.81	-26.8	249.00	1.94	3.82	-24.1	284.00	13.48	5.07	-29.6
216.00	15.73	5.90	-28.0	250.00	3.20	6.09	-26.7	285.00	15.04	5.16	-29.5

Table 1 (continued)

Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰
286.00	4.38	21.75	-27.6	320.00	0.67	34.99	-26.6	354.21	2.28	24.83	-31.0
287.00	23.16	24.15	-27.2	321.00	8.48	47.57	-31.7	355.20	8.51	20.72	-30.8
288.00	5.21	5.97	-28.6	322.00	16.78	24.43	-32.1	356.33	2.36	21.48	-30.6
289.00	13.84	13.49	-25.9	323.00	22.48	5.79	-31.2	357.20	3.89	10.96	-29.1
290.00	0.51	39.25	-27.7	324.00	7.72	23.11	-28.0	358.50	0.55	19.13	-28.5
291.00	6.02	10.50	-26.0	325.00	6.36	26.79	-27.4	359.08	1.60	16.70	-30.9
292.00	5.69	6.91	-24.9	326.00	13.40	14.24	-31.3	360.40	1.72	25.33	-29.0
292.95	9.92	9.11	-24.7	327.00	4.15	14.78	-28.7	361.32	4.78	18.70	-32.8
294.00	16.71	12.08	-25.1	328.00	0.39	15.55	-27.0	362.20	2.92	21.02	-29.6
295.00	3.24	8.03	-23.1	329.00	5.42	8.27	-30.4	363.20	10.30	28.57	-34.9
297.00	14.61	10.67	-30.4	330.00	5.71	6.34	-27.4	364.20	6.69	18.32	-31.9
298.00	19.06	4.73	-28.3	331.00	9.14	5.07	-30.0	365.12	12.46	13.58	-32.2
299.00	25.87	8.37	-25.1	332.00	2.80	27.74	-28.9	366.14	6.89	24.74	-32.1
300.00	12.89	11.74	-25.0	333.00	5.47	0.68	-31.2	367.16	7.02	8.62	-34.4
301.00	26.91	13.18	-24.5	333.90	2.85	15.70	-28.9	368.19	23.53	7.13	-33.8
302.00	21.25	6.13	-26.9	334.90	7.96	4.69	-30.4	369.05	13.71	4.67	-34.4
303.00	24.75	5.37	-22.0	336.14	5.96	8.52	-27.4	370.20	17.86	8.08	-29.7±0.1
304.00	13.00	4.59	-19.4	337.19	10.37	27.06	-27.8±0.1	371.10	16.87	11.56	-34.4
305.00	7.22	10.75	-28.4	338.15	13.79	23.40	-28.4±0.2	372.07	6.88	14.59	-29.7
305.58	11.77	1.14	-24.3	339.20	26.09	8.54	-26.7±0.0	373.17	17.56	11.83	-29.1
306.56	6.57	28.77	-25.6	340.21	21.52	9.20	-27.7	374.20	24.54	8.74	-36.3
307.50	3.52	10.81	-27.4	341.20	6.36	44.66	-25.6	375.10	34.86	9.05	-34.2
308.50	4.17	11.14	-28.7	342.10	5.02	16.06	-35.0	376.10	12.97	16.22	-30.6
309.40	2.21	14.40	-26.6	343.10	3.96	24.44	-28.1	377.10	7.70	12.80	-26.8±0.2
310.40	38.56	14.77	-26.7	344.10	11.01	16.18	-32.6±0.7	378.07	26.94	9.64	-34.6
311.40	29.97	8.70	-28.8	345.30	1.47	21.78	-29.4	379.15	3.29	17.59	-31.0±0.2
312.54	10.46	3.00	-23.7	346.26	4.38	25.60	-31.2	380.05	7.50	28.39	-32.6
313.00	27.20	8.82	-20.9	347.30	5.32	12.85	-31.0	381.38	5.10	19.05	-31.3
314.00	14.07	10.68	-26.2	348.30	2.52	36.41	-29.6	382.07	19.36	16.39	-32.9
315.00	15.10	7.26	-30.4	349.26	1.81	32.85	-27.5	383.10	17.87	15.02	-32.8
316.00	4.91	5.38	-27.7	350.24	0.54	24.15	-27.4	384.15	10.57	10.79	-34.0
317.00	8.51	11.06	-28.1	351.20	5.51	26.38	-32.9	385.00	8.32	13.11	-32.0
318.00	9.07	34.10	-27.5	352.27	2.62	17.91	-30.4	386.10	15.57	12.94	-35.9
319.00	21.22	30.53	-28.1	353.20	2.09	16.74	-29.8	387.00	8.93	19.42	-33.0

Table 1 (Continued)

Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰
388.00	9.54	13.47	-35.0	425.50	2.53	21.31	-30.3	461.63	18.61	10.97	-34.4
390.08	10.19	13.32	-35.6	426.50	5.10	18.41	-34.5	462.62	6.54	11.91	-30.1
391.03	5.20	26.91	-35.6	427.49	1.52	15.76	-28.5	463.82	14.45	5.96	-33.1
392.08	18.20	13.82	-33.6	428.75	8.91	9.00	-34.9	464.88	14.79	13.77	-34.0
393.10	20.75	6.52	-31.1	429.70	7.43	17.82	-33.3	466.08	15.72	12.95	-35.7
393.98	15.16	14.70	-36.1	430.78	2.73	26.38	-31.1±0.6	466.78	4.78	5.47	-32.5
395.10	9.61	12.55	-34.4	431.53	1.27	49.38	-30.6	467.97	17.41	31.34	-34.4
396.10	7.77	16.85	-36.6	432.72	9.27	1.84	-33.3	469.04	10.80	14.27	-32.6
396.90	9.82	10.40	-35.0±0.8	433.60	6.33	9.79	-33.8	470.10	9.35	14.14	-31.6
397.90	3.23	9.20	-33.1	434.76	9.47	14.27	-33.3	471.40	15.43	12.31	-33.2
399.00	14.61	14.38	-31.4±0.2	435.90	12.13	8.16	-31.9	472.51	6.14	4.77	-31.3
400.00	9.75	11.63	-34.7	437.00	2.23	20.23	-30.3	473.43	4.01	8.32	-29.3
401.00	5.90	12.57	-33.5±0.6	438.00	3.02	18.66	-31.7	474.60	8.92	8.81	-30.0
402.00	14.21	10.73	-33.3	439.12	4.09	25.91	-31.8	475.30	3.57	10.62	-32.6
403.00	12.46	13.33	-30.2±0.6	440.00	1.85	54.01	-31.7	477.30	7.68	32.40	-29.9
404.00	8.40	18.63	-33.9±0.6	442.00	10.78	19.64	-34.5	478.50	8.85	13.24	-31.4
405.11	12.35	9.43	-34.0	443.00	10.06	8.47	-32.3	479.60	12.70	41.01	-29.7
406.32	23.39	22.61	-29.6	443.92	4.59	23.62	-33.2	480.50	12.80	42.08	-30.9
407.67	4.19	65.20	-31.8	444.91	11.60	17.76	-34.3	481.61	3.60	24.08	-30.1
408.55	8.35	12.57	-34.2	445.93	2.71	28.01	-32.9	482.45	5.03	13.66	-27.5
409.50	10.03	13.96	-32.8	447.20	7.24	16.68	-35.0	484.00	19.47	22.03	-33.6
411.16	6.34	13.29	-33.4	448.28	2.06	12.77	-31.1	485.00	2.24	14.53	-28.9
412.29	4.18	22.43	-35.1	449.23	5.81	7.10	-31.4	486.00	6.30	5.16	-28.6
413.49	9.15	14.84	-37.1	450.30	10.33	14.88	-33.0	487.00	7.77	11.36	-32.4
414.45	14.46	11.26	-33.5	451.61	14.06	13.98	-36.6	488.00	1.87	10.63	-27.8
415.80	3.28	25.39	-34.5	452.68	14.79	9.66	-35.7	489.10	15.13	25.82	-31.7
416.84	4.67	14.34	-32.5	454.00	4.47	21.25	-32.8	490.08	1.62	3.46	-27.1
417.87	8.38	30.11	-36.0	455.00	7.64	19.96	-33.1	491.08	2.96	10.30	-28.3
418.89	20.94	12.03	-36.3	455.80	10.89	26.85	-33.4	492.08	2.53	9.54	-29.0
420.20	9.27	15.59	-34.6	457.00	6.38	26.04	-32.8	493.00	6.14	9.20	-31.2
421.20	6.11	5.54	-35.5	458.10	13.86	15.93	-32.7	494.00	2.64	7.76	-30.4
422.20	13.78	3.54	-32.6	459.50	15.12	29.93	-36.2±0.1	495.03	6.20	10.83	-30.4
423.20	4.02	15.20	-33.8	460.50	18.23	12.82	-33.3±0.0	496.25	3.79	7.00	-29.0
424.50	4.55	14.52	-34.4	461.00	1.95	1.86	-22.8	497.41	8.11	26.64	-31.1

Table 1 (Continued)

Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰
498.50	2.89	14.93	-29.7	536.25	2.71	5.00	-29.6±0.1	576.95	0.13	10.84	-31.1±0.0
499.47	13.53	28.28	-31.3	537.40	3.83	8.11	-29.7	577.05	0.08	11.09	-30.7±0.1
500.50	1.09	2.93	-27.2	538.30	3.13	2.08	-27.6±0.1	577.15	0.03	15.83	-27.2
501.60	2.77	21.31	-29.6	539.50	2.31	5.03	-28.5±0.1	577.25	0.13	10.02	-29.7±0.1
502.47	10.27	4.76	-29.0	540.30	3.02	5.63	-28.7	577.35	0.07	9.13	-30.5±0.0
503.57	2.88	7.22	-28.7	541.30	1.87	6.12	-27.6	577.45	0.06	8.49	-31.7±0.1
504.85	1.63	0.79	-28.2	542.40	1.68	4.91	-26.6±0.1	577.55	0.04	21.66	-28.7
506.50	1.63	1.67	-27.7	543.45	1.91	6.70	-28.4±0.0	577.65	0.08	9.04	-31.5±0.1
507.35	5.72	3.30	-31.6	544.55	1.04	5.03	-26.9±0.0	577.75	0.02	13.01	-31.8
508.30	2.33	4.03	-29.3	545.50	2.07	5.11	-28.0	577.85	0.04	7.84	-28.7
509.50	7.35	4.54	-33.0	546.40	7.22	3.96	-28.0±0.8	577.95	0.05	7.79	-28.7
510.80	6.46	3.44	-29.7	547.30	4.37	7.97	-26.7	578.08	0.23	3.33	-32.7±0.2
511.55	7.40	4.39	-30.7	548.40	7.14	1.78	-27.2	578.15	0.23	7.57	-32.2±0.1
513.00	7.86	6.15	-30.4	550.30	1.40	4.98	-27.1±0.0	578.25	0.11	8.74	-30.2±0.1
514.30	6.54	6.70	-28.5	551.50	1.36	14.14	-27.2	578.35	0.18	7.32	-27.4
515.10	6.93	5.09	-30.0	552.40	1.11	4.35	-27.6	578.45	0.12	8.76	-27.5±0.1
516.10	6.63	5.21	-30.5	553.40	3.61	5.40	-32.6	578.55	0.04	9.56	-28.8
517.20	9.95	5.72	-30.8	555.40	1.39	6.30	-29.2	578.62	0.06	4.26	-26.5±0.0
518.20	5.39	4.22	-31.4	556.40	1.87	6.25	-28.9	578.72	0.06	2.38	-26.4
519.55	3.98	6.80	-30.0±0.0	557.45	3.19	5.76	-30.3±0.0	578.76	0.04	11.29	-26.5
520.05	9.96	4.44	-30.9	558.90	1.20	32.34	-30.7±0.1	578.85	0.04	9.25	-26.5
521.20	14.23	5.17	-29.9	559.40	3.43	9.69	-30.8±0.0	578.93	0.06	11.79	-26.5
522.50	4.74	9.04	-28.9	561.50	4.07	21.37	-29.4	578.95	0.04	11.24	-26.2
523.45	2.92	5.31	-29.3	563.70	5.46	6.12	-29.9±0.6	579.04	0.05	3.62	-26.1
524.30	3.28	2.10	-28.1±0.1	565.50	6.25	5.06	-31.2	579.07	0.06	10.76	-26.9±0.4
525.30	4.87	4.69	-30.8±0.0	566.30	3.38	4.67	-30.2±0.0	579.18	0.03	10.18	-26.6
526.45	3.13	4.14	-28.2	567.80	5.80	5.55	-30.5	579.25	0.08	9.65	-26.3±0.0
527.50	5.66	4.63	-30.7±0.1	568.60	7.61	5.50	-31.8	579.45	0.05	8.55	-26.4±0.0
528.50	4.86	4.17	-31.4	570.14	0.70	7.25	-30.4±01	579.55	0.05	9.64	-26.3
530.50	3.70	15.30	-30.3	573.40	0.15	13.88	-30.0±0.0	579.65	0.06	6.05	-26.6
531.50	4.96	4.79	-30.1	574.78	0.01	6.33	-28.3±0.2	579.75	0.12	10.63	-26.2
532.37	4.38	5.70	-29.7±0.2	575.12	0.02	12.44	-26.4	579.78	0.25	9.73	-26.2±0.0
533.77	4.57	4.12	-32.7±0.0	575.23	0.07	12.76	-27.1	579.84	0.37	9.31	-26.1±0.1
534.60	5.35	4.52	-31.6	575.50	0.01	6.56	-26.9±0.7	579.85	0.06	11.17	-26.4

Table 1 (Continued)

Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰	Depth /m	Wt% C	Wt % CO_3	$\delta^{13}C_{VPDB}$ /‰
580.08	0.04	9.72	-26.8	591.00	0.01	1.73	-29.4
580.15	0.02	8.25	-27.0	592.65	0.00	4.65	-31.0
580.20	0.09	9.40	-26.7±0.1	595.50	0.00	4.70	-31.3
580.25	0.04	10.14	-26.6	596.40	0.00	5.65	-34.4
580.35	0.03	9.65	-26.7±0.0				
580.40	0.08	9.49	-26.2±0.1				
580.53	0.04	9.22	-26.5				
580.60	0.02	8.57	-26.8				
580.62	0.03	14.08	-26.1				
580.70	0.01	6.52	-28.3±0.6				
580.75	0.01	5.31	-28.5				
580.85	0.02	6.77	-25.8				
580.88	0.02	7.58	-23.2±0.1				
580.95	0.02	6.42	-25.7±0.4				
580.96	0.02	8.22	-25.8±0.4				
581.01	0.02	8.00	-26.0±0.3				
581.03	0.01	6.07	-26.6±0.3				
581.13	0.02	5.45	-23.1±0.6				
581.15	0.03	7.96	-22.7				
581.25	0.01	5.30	-25.2				
581.32	0.02	9.08	-24.9				
581.36	0.01	6.73	-24.4±0.6				
581.47	0.01	6.14	-25.5				
581.58	0.01	7.10	-24.3				
581.64	0.01	6.33	-25.4				
581.68	0.01	8.74	-23.9				
581.73	0.01	5.62	-24.2				
581.77	0.01	9.06	-26.6				
581.83	0.01	17.85	-25.3				
581.86	0.01	9.06	-27.3				
582.00	0.01	11.69	-30.0				
582.50	0.00	14.89	-31.4				
583.10	0.01	9.99	-29.8				
583.55	0.00	5.58	-30.6				