

APPENDIX II: CARBON AND CARBONATE ANALYSES¹

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Leg 71 sediments were analyzed for total carbon and acid-insoluble (organic) carbon, using the Leco WR-12 analyzer, according to the standard technique outlined below.

The 3 cm³ sediment samples were first dried and ground into a homogeneous powder. The ground sediment was redried at 105 to 110°C, and two samples, a 0.1 g and a 0.5 g sample, were weighed into Leco clay crucibles. The 0.5 g sample was acidified with 10% hydrochloric acid and washed with distilled water. The sample was then dried and analyzed for acid-insoluble carbon. The 0.1 g sample was analyzed for total carbon without further treatment. If the sample contained less than 10% CaCO₃, an additional 0.5 g sample was analyzed for greater accuracy. The calcium carbonate percentages were calculated as follows: (% total C - % organic C) × 8.33 = % CaCO₃. Although other carbonates may be present, all acid-soluble carbon was calculated as calcium carbonate. All results are given in wt. % (Table 1).

Detailed descriptions of the technique and theory may be found in Bader, Gerard, et al. (1970) and Boyce and Bode (1972).

REFERENCES

- Bader, R. G., Gerard, R. D., et al., 1970. *Init. Repts, DSDP, 4*: Washington (U.S. Govt. Printing Office).
 Boyce, R. E., and Bode, G. W., 1972. Carbon and carbonate analyses, Leg 9, Deep Sea Drilling Project. In Hays, J. D., et al., *Init. Repts, DSDP, 9*: Washington (U.S. Govt. Printing Office), 747.

Table 1. Leg 71, Holes 511 to 514, carbon and carbonate analysis.

Sample (level in cm)	Sub- bottom Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 511				
2-1, 32	5.32	0.2	0.2	0
2-4, 40	9.90	1.3	0.1	10
3-2, 58	16.58	3.4	0.3	26
3-4, 58	19.58	0.9	0.5	3
5-2, 30	35.30	0.9	0.8	1
5-4, 30	38.30	0.9	0.5	3
9-2, 68	73.68	1.4	0.6	6
9-4, 68	76.68	1.6	0.6	9
9-6, 68	79.68	1.2	0.3	8
11-1, 70	90.20	2.6	0.4	18
11-3, 70	93.20	1.3	0.6	6

Table 1. (Continued).

Sample (level in cm)	Sub- bottom Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 511				
15-1, 66	129.16	1.5	0.4	9
17-1, 103	148.53	1.8	0.3	12
17-3, 2	150.52	1.7	0.4	11
20-1, 15	176.15	2.5	0.4	18
20-3, 14	179.14	2.1	0.3	15
21-1, 57	186.07	0.1	0.1	0
23-1, 25	195.25	4.7	0.1	39
24-2, 10	206.10	7.4	0.1	61
24-4, 10	209.10	7.4	0.1	61
24-6, 10	212.10	7.6	0.1	62
25-1, 7	209.07	0.1	0.0	0
27-1, 102	220.02	0.1	0.1	0
27-2, 54	221.04	0.2	0.1	0
28-1, 142	224.92	0.1	0.1	0
28-3, 142	227.92	0.5	0.2	2
28-5, 144	230.94	1.4	0.5	7
30-2, 7	244.07	2.7	0.5	18
30-4, 7	247.07	1.2	0.4	7
30-6, 7	250.07	1.0	0.6	3
31-1, 20	252.20	1.6	0.6	8
31-3, 20	255.20	1.8	0.4	11
31-5, 20	258.20	2.1	0.4	14
32-1, 30	261.80	4.3	0.4	32
32-3, 30	264.80	1.6	0.4	11
32-5, 30	267.80	1.7	0.7	9
33-1, 30	271.30	5.4	0.2	43
33-3, 30	274.30	1.6	0.6	8
33-5, 30	277.30	2.0	0.3	14
34-1, 25	280.75	1.5	0.7	7
34-3, 25	283.75	2.7	0.5	19
34-5, 25	286.75	3.2	0.5	22
34-7, 25	289.75	2.8	0.5	19
35-1, 25	290.25	2.8	0.3	21
36-1, 17	299.67	1.7	0.6	9
36-3, 17	302.67	1.8	0.6	10
36-5, 17	305.67	1.7	0.5	10
36-7, 17	308.67	1.9	0.8	9
37-2, 2	310.52	1.7	0.7	9
38-2, 41	320.41	1.4	0.6	7
38-4, 41	323.41	1.3	0.4	7
38-6, 41	326.41	2.5	0.2	19
39-2, 30	329.80	1.1	0.3	6
39-4, 30	332.80	1.4	0.5	8
40-2, 11	339.11	0.8	0.6	2
40-4, 11	342.11	1.4	0.6	7
40-6, 11	345.11	0.7	0.3	3
41-1, 43	347.43	4.5	0.1	36
41-2, 46	348.96	2.9	0.1	24
41-3, 113	351.13	1.6	0.4	10
42-3, 61	360.11	1.1	0.2	8
43-1, 10	366.10	1.3	0.3	9
43-3, 10	369.10	0.9	0.4	4
44-2, 15	377.15	0.8	0.5	3

¹ Ludwig, W. J., Krashennnikov, V. A., et al., *Init. Repts. DSDP, 71*: Washington (U.S. Govt. Printing Office).

Table 1. (Continued).

Sample (level in cm)	Sub- bottom Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 511				
44-4, 15	380.15	1.1	0.4	6
45-1, 29	385.29	0.5	0.2	2
45-3, 29	388.29	0.3	0.3	0
46-1, 29	394.79	1.2	0.4	6
46-3, 29	397.79	0.7	0.4	2
47-1, 21	404.21	0.8	0.3	4
47-3, 21	407.21	1.0	0.3	6
47-5, 21	410.21	2.3	0.3	17
48-1, 21	413.71	1.2	0.2	9
48-3, 21	416.71	0.1	0.1	0
49-1, 20	423.20	0.1	0.1	0
49-3, 20	426.20	0.1	0.1	0
49-5, 20	429.20	1.1	0.1	9
50-1, 20	432.70	4.9	0.1	40
50-3, 20	435.70	4.0	0.1	33
51-2, 19	443.69	3.0	0.0	24
51-4, 19	446.69	4.2	0.1	35
51-6, 19	449.69	6.6	0.0	55
52-1, 41	451.91	6.7	0.0	56
52-3, 41	454.91	4.0	0.1	33
52-5, 41	457.91	5.0	0.1	41
53-2, 19	462.69	3.6	0.1	30
53-4, 19	465.69	5.3	0.1	44
53-6, 19	468.69	4.7	0.1	38
54-2, 19	472.19	5.3	0.1	43
54-4, 19	475.19	3.1	0.1	25
54-6, 19	478.19	2.9	0.1	24
55-1, 20	480.20	3.9	0.1	32
55-3, 20	483.20	3.5	0.1	28
55-5, 20	486.20	4.7	0.1	38
56-1, 28	489.78	4.4	0.1	36
56-3, 28	492.78	0.3	0.1	2
56-5, 28	495.78	0.5	0.6	0
57-1, 28	499.28	0.6	0.6	0
58-1, 85	509.35	0.9	0.6	3
59-1, 70	518.70	4.6	3.5	9
60-3, 95	531.45	8.9	5.3	30
61-1, 23	537.23	2.5	2.1	4
61-3, 23	540.23	4.1	3.6	4
61-5, 23	543.23	6.2	3.7	20
62-2, 29	548.29	3.9	3.3	5
62-4, 29	551.29	3.2	2.7	4
63-2, 26	557.76	2.8	2.4	3
64-2, 32	567.32	3.5	2.7	6
64-4, 32	570.32	2.7	2.3	3
65-1, 90	575.90	4.6	2.9	14
65-3, 132	579.32	4.1	3.2	7
66-3, 94	588.44	3.6	2.6	9
67-1, 50	594.50	3.6	2.6	8
68-1, 29	603.79	3.4	2.9	5
69-1, 70	613.70	3.4	2.8	4
70-2, 65	624.65	2.6	2.3	3
Hole 512				
1-2, 20	1.70	7.0	0.1	58
2-2, 110	5.10	5.7	2.6	26
3-1, 30	7.20	6.7	1.1	47
4-1, 50	11.80	5.1	0.2	41
5-1, 50	16.20	6.3	0.9	46
6-1, 60	20.70	6.4	1.5	41
7-1, 70	25.20	7.2	0.5	56
8-1, 10	29.00	6.6	1.7	41
9-3, 50	34.40	6.7	0.1	55
10-2, 75	37.55	7.1	2.4	40

Table 1. (Continued).

Sample (level in cm)	Sub- bottom Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 512 (cont)				
11-1, 17	38.47	6.3	0.1	52
12-1, 40	43.10	6.6	0.7	49
13-1, 50	47.60	6.9	1.1	49
14-2, 30	53.30	6.4	0.2	52
15-1, 129	57.19	7.0	0.1	58
16-1, 43	60.73	8.4	0.1	69
17-2, 9	66.29	8.4	0.1	69
18-2, 43	71.03	8.0	0.1	66
19-1, 23	73.73	8.8	0.1	72
Hole 513				
1-1, 146	1.46	0.5	0.4	1
1-3, 146	4.46	0.4	0.4	1
1-5, 146	7.46	0.4	0.3	1
3-1, 72	19.22	0.5	0.4	1
3-3, 72	22.22	0.4	0.4	0
3-5, 72	25.22	0.4	0.3	0
4-1, 132	29.32	0.4	0.3	0
4-3, 132	32.32	0.3	0.3	0
4-5, 132	35.32	0.3	0.3	0
5-1, 12	37.62	0.3	0.2	0
5-3, 12	40.62	0.2	0.2	0
5-5, 12	43.62	0.2	0.2	0
6-2, 12	48.62	0.2	0.2	0
6-4, 12	51.62	0.3	0.3	0
6-6, 12	54.62	0.2	0.2	0
9-2, 89	77.89	0.3	0.2	0
9-4, 89	80.89	0.2	0.2	0
9-6, 89	83.89	0.3	0.3	0
Hole 513A				
1-1, 34	56.84	0.4	0.3	0
1-3, 34	59.84	0.2	0.2	0
2-1, 38	66.38	0.2	0.2	0
2-3, 38	69.38	0.2	0.2	0
2-5, 38	72.38	0.2	0.2	0
3-1, 47	85.47	0.3	0.3	0
4-1, 18	94.68	0.2	0.2	0
4-3, 18	97.68	0.3	0.3	0
4-5, 18	100.68	0.3	0.3	0
5-1, 23	104.23	0.2	0.2	0
5-3, 23	107.23	0.2	0.2	0
5-5, 23	110.23	0.2	0.2	0
6-1, 18	113.68	0.3	0.3	0
6-3, 18	116.68	0.3	0.3	0
6-5, 18	119.68	0.2	0.2	0
7-3, 18	126.18	0.2	0.2	0
7-5, 18	129.18	0.2	0.1	0
8-1, 86	133.36	0.1	0.1	0
8-3, 86	136.36	0.3	0.3	0
9-1, 9	142.09	0.1	0.1	0
10-1, 125	152.75	0.2	0.2	0
10-3, 125	155.75	0.1	0.1	0
10-5, 125	158.75	0.1	0.1	0
11-2, 65	163.15	0.1	0.1	0
11-7, 26	170.26	0.1	0.1	0
12-2, 93	172.93	0.1	0.1	0
12-4, 93	175.93	0.1	0.1	0
13-2, 63	182.13	0.1	0.1	0
14-1, 59	190.09	3.5	0.1	29
15-2, 13	200.63	6.5	0.1	53
15-4, 13	203.63	5.8	0.1	48
15-6, 13	206.63	5.6	0.1	46

Table 1. (Continued).

Sample (level in cm)	Sub- bottom Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 513A (cont)				
16-1, 17	208.67	3.7	0.1	30
16-3, 17	211.67	3.2	0.1	26
16-5, 17	214.67	1.4	0.1	11
17-1, 42	218.42	0.5	0.1	4
17-3, 42	221.42	1.9	0.1	15
17-5, 42	224.42	0.4	0.1	3
18-1, 15	227.65	6.1	0.1	50
18-3, 18	230.68	6.9	0.1	57
18-5, 18	233.68	8.0	0.1	66
20-1, 19	246.69	4.8	0.1	40
20-3, 19	249.69	8.0	0.0	67
21-1, 139	257.39	5.7	0.1	47
21-3, 139	260.39	6.6	0.0	55
21-5, 139	263.39	8.6	0.1	71
24-2, 53	286.53	8.4	0.1	69
28-2, 17	324.17	7.3	0.1	60
28-4, 17	327.17	7.7	0.1	64
29-2, 35	333.85	7.8	0.1	65
30-1, 73	342.23	6.0	0.1	49
30-3, 73	345.23	5.6	0.1	46
31-1, 1	351.01	7.9	0.1	65
31-1, 20	351.20	7.3	0.1	60
31-3, 20	354.20	7.3	0.1	60
31-5, 20	357.20	7.0	0.1	57
31-7, 20	360.20	8.1	0.1	67
32-1, 90	361.40	9.3	0.1	77
32-3, 90	364.40	6.8	0.1	56
33-3, 1	373.01	9.1	0.1	76
33-5, 1	376.01	6.7	0.0	55
33-7, 1	379.01	7.1	0.1	58
Hole 514				
1-1, 33	0.33	0.6	0.2	3
2-1, 49	1.69	0.3	0.2	1
2-3, 49	4.69	0.2	0.2	0
3-1, 133	6.93	0.6	0.5	1
3-3, 2	8.62	0.7	0.5	1
4-1, 119	11.19	0.5	0.4	1
4-3, 9	13.09	0.5	0.5	0
5-4, 19	19.09	0.3	0.3	0
6-1, 110	19.90	0.3	0.3	0
6-3, 110	22.90	0.4	0.2	2
8-2, 73	29.83	0.5	0.4	1
9-1, 59	32.59	0.4	0.3	0
9-3, 90	35.90	0.3	0.3	0

Table 1. (Continued).

Sample (level in cm)	Sub- bottom Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 514 (cont)				
10-1, 21	36.61	0.4	0.4	0
10-3, 21	39.61	0.3	0.3	0
11-1, 90	41.70	0.4	0.3	1
12-2, 70	47.40	0.6	0.4	1
13-3, 109	53.69	0.5	0.4	0
13-3, 109	53.69	0.4	0.4	0
14-1, 97	54.97	0.4	0.0	4
14-3, 97	57.97	0.5	0.5	0
15-1, 103	59.43	0.5	0.5	1
15-3, 103	62.43	0.3	0.3	1
16-2, 70	65.00	0.3	0.3	0
17-1, 73	67.93	0.3	0.3	0
17-3, 73	70.93	0.3	0.3	0
18-1, 41	72.01	0.4	0.3	1
18-3, 127	75.87	0.3	0.3	0
19-1, 84	76.84	0.5	0.5	0
19-3, 39	79.39	0.3	0.3	0
20-1, 69	81.09	0.4	0.4	0
20-3, 19	83.59	0.4	0.4	0
21-1, 93	85.73	0.7	0.6	0
21-3, 93	88.73	0.2	0.2	0
22-1, 111	90.31	1.1	0.2	8
22-3, 14	92.34	0.3	0.3	0
23-2, 19	95.29	0.3	0.3	0
24-1, 34	98.34	0.3	0.3	0
24-3, 34	101.34	0.4	0.3	0
25-1, 24	102.64	0.3	0.3	0
25-3, 24	105.64	0.3	0.3	0
26-1, 13	106.93	0.5	0.3	2
27-1, 61	111.81	0.3	0.3	0
28-1, 72	116.32	0.3	0.3	0
28-2, 72	117.82	0.2	0.3	0
29-1, 45	120.45	0.3	0.2	1
29-3, 45	123.45	0.2	0.2	0
30-1, 85	125.25	0.3	0.2	0
30-3, 85	128.25	0.3	0.3	1
31-1, 12	128.92	0.4	0.3	1
31-3, 12	131.92	0.4	0.3	1
32-1, 17	133.37	0.5	0.3	1
32-3, 17	136.37	0.4	0.3	0
33-1, 39	137.99	0.3	0.2	0
33-3, 39	140.99	1.3	0.2	9
34-1, 107	143.07	0.4	0.4	0
34-3, 107	146.07	0.4	0.4	0
35-1, 49	146.89	0.3	0.3	0
35-3, 49	149.89	0.3	0.3	0