

I. CARBON-CARBONATE ANALYSIS

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Leg 44 sediments were analyzed for total carbon and acid-insoluble (organic) carbon using a LECO WR-12/ analyzer. The 3-cc sediment samples were dried, ground into a homogeneous powder, and redried at 105°-110°C. Two samples, a 0.1-g and 0.5-g sample, were weighed into LECO clay crucibles. 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 carbon/carbonate results are given in weight percent. For detailed step-by-step procedure and theory, see Volume 4 of the *Initial Reports of the Deep Sea Drilling Project* (Bader, Gerard, et al., 1970) and Volume 9 of the *Initial Reports of the Deep Sea Drilling Project* (Boyce, Bode, et al., 1972).

For control purposes standard sediments were made up from Deep Sea Drilling material and analyzed for total carbon at predetermined intervals with regular samples. Listed below are the data from these standards:

REFERENCES

- Bader, R.G., Gerard, R.D., et al., 1970. *Initial Reports of the Deep Sea Drilling Project*, Volume 4, Washington (U.S. Government Printing Office), Appendix III.
- Boyce, R.E. and Bode, G.W., 1972. Carbon and carbonate analyses, Leg 9, Deep Sea Drilling Project. In Hayes, J.D., et al., *Initial Reports of the Deep Sea Drilling Project*, Volume 9, Washington (U.S. Government Printing Office), p. 747.

Sample (Interval in cm)	Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
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Hole 388

1-1, 99	1.0	0.6	0.4	2
1-3, 22	3.2	4.9	0.1	39
1-4, 5	4.6	2.1	0.1	16
2-1, 99	38.0	1.7	0.2	12
2-2, 30	38.8	3.5	0.2	28
2-3, 31	40.3	3.1	0.2	24
4-1, 95	209.0	0.3	0.3	0
5-0, 0	246.0	0.6	0.4	1
5-0, 0	246.0	0.6	0.4	2
5-0, 43	246.4	0.4	0.3	0
5-1, 30	246.8	0.4	0.4	0
5-2, 30	248.3	0.4	0.3	1
5-4, 49	251.5	0.4	0.3	1
5-5, 30	252.8	0.5	0.3	1
5-6, 110	255.1	0.4	0.3	1
6-2, 100	286.5	0.8	0.6	2
7-2, 40	295.4	0.7	0.3	3
7-3, 0	296.5	0.7	0.5	2
7-3, 30	296.8	0.5	0.3	1
7-3, 48	297.0	0.7	0.4	3

Sample (Interval in cm)	Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
7-4, 0	298.0	0.8	0.6	2
7-4, 150	299.5	0.5	0.3	1
8-1, 60	303.6	0.6	0.5	1
9-1, 24	312.7	0.8	0.4	3
9-3, 30	315.8	0.5	0.4	1
9-4, 56	317.6	0.8	0.4	4
9-5, 60	319.1	0.4	0.4	0
10-1, 130	323.3	0.6	0.4	1
11-0, 0	331.5	0.8	0.4	3
11-0, 50	332.0	0.6	0.3	2
11-2, 22	333.7	0.5	0.3	1
11-5, 68	338.7	0.5	0.3	1

Hole 389

1-2, 39	31.9	9.4	0.1	78
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Hole 390

1-2, 39	1.9	0.4	0.4	0
1-3, 36	3.4	10.2	0.0	85
1-4, 43	4.9	9.8	0.0	81
1-5, 40	6.4	9.9	0.0	82
1-6, 55	8.1	9.7	0.0	80
2-1, 136	124.9	8.4	0.1	69
3-1, 136	134.4	2.3	0.1	19
3-3, 0	136.0	6.4	0.0	53
3-3, 20	136.2	7.6	0.0	63
3-3, 48	136.5	5.7	0.1	47
4-1, 135	143.9	3.2	0.1	27
4-2, 61	144.6	6.5	0.1	53
5-1, 109	153.1	9.6	0.1	79
5-2, 59	154.1	7.6	0.1	63
8-6, 121	189.2	11.3	0.0	94
9-1, 106	191.1	10.7	0.0	89

Hole 390A

1-1, 110	10.6	9.4	0.0	78
2-1, 107	20.1	8.6	0.0	71
2-2, 58	21.1	8.1	0.0	67
3-2, 29	30.3	8.4	0.0	70
3-4, 18	33.2	8.3	0.0	69
4-2, 23	40.1	8.1	0.0	67
4-4, 23	43.1	8.5	0.0	71
4-6, 24	46.1	10.4	0.0	86
5-2, 23	49.2	9.3	0.1	77
5-4, 124	53.2	7.6	0.0	63
6-0, 0	57.0	9.0	0.0	75
6-0, 40	57.4	8.9	0.0	73
6-2, 23	59.1	7.9	0.0	66
6-4, 21	62.1	7.6	0.0	63
6-6, 22	65.1	8.3	0.0	69
7-4, 20	71.2	6.7	0.0	56
8-3, 60	79.6	7.7	0.1	64
9-1, 94	86.4	8.1	0.1	67
10-0, 0	95.0	7.5	0.0	62
10-0, 40	95.4	8.2	0.0	68
10-1, 52	95.9	7.9	0.1	65

Sample (Interval in cm)	Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 390A – Continued				
10-3, 50	98.9	7.8	0.1	65
10-5, 50	101.9	7.2	0.1	59
11-2, 52	106.5	9.4	0.1	78
11-4, 52	109.5	9.2	0.1	76
11-6, 60	112.6	9.1	0.1	75
12-0, 0	114.0	8.9	0.1	74
12-0, 45	114.5	9.0	0.1	75
12-2, 52	116.5	8.6	0.1	71
12-4, 60	119.6	8.9	0.1	74
12-6, 51	122.5	8.8	0.1	73
13-1, 63	124.5	8.8	0.1	73
13-2, 30	125.7	8.8	0.1	73
13-2, 105	126.5	10.9	0.0	91
13-4, 34	128.7	10.7	0.0	89
13-6, 40	131.8	10.6	0.0	88
14-1, 70	133.7	10.9	0.0	91
14-2, 39	134.9	10.7	0.0	89
14-4, 39	137.9	11.1	0.0	92
14-5, 98	140.0	8.9	0.0	74
Hole 391				
1-2, 0	1.5	3.4	0.3	26
1-2, 19	1.7	2.5	0.3	18
1-2, 106	2.6	1.2	0.3	7
Hole 391A				
1-2, 98	88.5	2.0	0.4	13
1-4, 22	90.7	1.1	0.4	6
1-6, 82	94.3	0.9	0.4	4
2-2, 35	33.4	3.5	0.3	27
2-4, 42	36.4	2.4	0.4	17
3-1, 107	146.6	2.7	0.3	20
3-3, 45	149.0	11.4	0.1	94
3-4, 0	150.0	11.1	0.6	87
3-4, 28	150.3	11.0	11.0	0
3-5, 44	151.9	11.2	0.1	92
4-1, 26	202.8	11.1	0.2	91
4-2, 47	204.5	10.6	0.2	86
4-3, 0	205.5	10.7	2.3	70
4-3, 39	205.9	10.6	0.2	87
4-4, 54	207.5	10.2	0.4	81
5-0, 0	259.5	9.9	0.4	79
5-2, 51	261.9	10.2	0.4	81
5-4, 56	265.0	9.9	0.4	80
5-6, 56	268.0	10.6	0.3	86
6-2, 65	318.7	10.5	0.2	86
6-3, 0	319.5	10.6	0.2	87
6-3, 20	319.7	10.4	0.2	85
6-4, 60	321.6	11.0	0.1	91
6-5, 60	323.1	11.1	0.1	92
7-1, 57	326.6	3.4	1.6	15
7-2, 6	327.6	0.4	0.3	1
7-2, 67	328.2	3.3	1.5	15
7-4, 71	331.2	0.5	0.5	1
7-5, 64	332.6	3.3	1.0	20
8-1, 80	336.3	1.4	0.6	7
9-0, 0	354.5	9.0	0.3	73
9-0, 0	354.5	8.9	0.3	72
9-0, 50	355.0	9.0	0.2	73
9-2, 50	357.0	8.8	0.3	71
9-4, 42	359.9	8.7	0.3	71
9-6, 46	363.0	8.8	0.3	71

Sample (Interval in cm)	Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 391A – Continued				
10-0, 0	373.5	9.0	0.2	73
10-0, 40	373.9	9.0	0.2	73
10-2, 46	375.9	9.3	0.3	75
10-4, 55	379.0	9.0	0.3	72
10-6, 47	381.9	9.0	0.3	73
11-0, 0	411.5	9.1	0.2	74
11-0, 50	412.0	9.1	0.2	74
11-2, 75	414.3	9.2	0.3	74
11-4, 75	417.3	9.3	0.2	76
12-0, 0	468.5	10.0	0.2	82
12-0, 0	468.5	10.2	2.3	66
12-4, 105	474.6	9.9	0.3	80
12-6, 40	476.9	10.7	1.3	79
12-6, 60	477.1	10.9	0.1	89
13-0, 0	525.5	4.2	1.4	23
13-0, 50	526.0	4.1	1.5	21
13-1, 41	526.4	4.2	1.2	25
13-3, 74	529.7	10.2	0.3	82
13-5, 95	533.0	10.1	0.4	81
16-1, 119	555.2	0.6	0.6	0
17-2, 80	570.8	10.6	0.2	87
17-4, 52	573.5	10.5	0.1	86
17-4, 134	574.3	4.1	1.0	26
19-2, 57	584.6	8.7	0.5	68
19-3, 93	586.4	9.6	0.2	78
19-4, 100	588.0	0.5	0.4	0
19-4, 130	588.3	10.0	0.2	82
20-1, 92	640.4	0.9	0.9	0
20-2, 0	641.0	0.8	0.8	0
20-2, 40	641.4	0.5	0.5	0
20-2, 62	641.6	0.2	0.2	0
20-4, 73	644.7	9.4	0.2	76
21-1, 41	649.4	0.1	0.1	0
21-3, 41	652.4	0.1	0.1	0
21-4, 0	653.5	0.1	0.1	0
21-4, 125	654.8	0.3	0.3	0
21-5, 40	655.4	0.3	0.3	0
Hole 391B				
1-2, 60	2.3	2.2	0.3	16
1-4, 53	5.2	1.5	0.3	9
1-4, 114	5.8	1.5	0.2	11
1-6, 51	8.2	1.6	0.3	11
Hole 391C				
1-1, 81	336.3	9.0	0.1	74
1-2, 96	338.0	10.7	0.1	89
2-0, 0	611.0	8.9	0.3	72
2-0, 39	611.4	8.7	0.2	71
2-1, 5	611.4	9.0	0.3	73
2-3, 122	615.6	9.0	0.2	73
2-5, 12	617.5	9.1	0.3	73
4-1, 107	669.1	0.2	0.2	0
5-1, 95	678.5	0.1	0.1	0
6-2, 57	689.6	0.3	0.2	0
6-3, 0	690.5	0.9	0.9	0
6-3, 145	692.0	0.6	0.6	0
6-4, 57	692.6	0.3	0.2	1
6-6, 58	695.6	0.9	0.8	1
7-2, 0	726.5	0.9	0.9	0
7-2, 32	726.8	0.9	0.9	0
7-2, 44	726.9	0.7	0.6	1

Sample (Interval in cm)	Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 391C – Continued				
8-1, 132	783.3	1.8	1.8	0
8-2, 115	784.7	0.4	0.3	1
8-2, 145	785.0	0.4	0.4	0
9-1, 91	839.9	0.7	0.7	0
9-2, 80	841.3	0.2	0.2	0
9-3, 1	842.0	0.3	0.2	0
9-3, 149	843.5	0.8	0.7	1
10-1, 118	897.2	0.5	0.5	0
10-2, 28	897.8	0.1	0.1	0
10-3, 91	899.9	0.5	0.5	0
10-3, 110	900.1	1.6	1.5	1
10-3, 145	900.5	4.6	1.0	30
11-1, 113	925.6	11.0	2.9	67
11-2, 67	926.7	7.8	0.2	63
11-2, 110	927.1	6.2	0.4	48
11-2, 145	927.5	8.8	0.5	70
11-3, 83	928.3	11.6	1.1	87
12-1, 100	954.4	10.3	1.2	76
12-3, 44	956.8	8.5	3.0	45
12-4, 0	957.9	2.0	1.7	3
12-4, 149	959.4	1.9	0.9	8
12-5, 100	960.4	8.9	1.1	65
14-1, 99	1001.5	10.6	0.2	87
14-2, 42	1002.4	11.3	2.3	75
15-1, 76	1010.8	11.3	0.9	87
15-1, 90	1010.9	7.5	0.8	56
15-3, 72	1013.7	4.1	1.2	24
16-1, 90	1020.4	3.3	1.8	12
16-1, 110	1020.6	11.0	0.5	88
16-1, 149	1021.0	9.2	0.5	72
16-4, 68	1024.7	5.4	0.1	44
17-1, 97	1030.0	10.7	1.6	75
17-2, 95	1031.5	6.2	0.0	51
18-1, 100	1039.5	10.7	1.5	77
20-1, 126	1058.8	6.4	0.1	53
21-3, 110	1090.1	5.9	0.5	44
21-3, 138	1090.4	5.5	0.5	41
21-4, 78	1091.3	4.5	0.4	35
24-2, 33	1125.8	10.0	0.5	79
24-4, 33	1128.8	11.4	0.3	93
24-6, 44	1131.9	11.7	0.6	92
25-1, 37	1133.9	4.9	1.2	31
25-1, 111	1134.6	6.6	0.3	52
25-2, 26	1135.3	10.9	0.4	87
25-4, 33	1138.3	11.2	0.1	92
25-4, 114	1139.1	11.0	0.1	91
26-2, 5	1144.6	10.3	0.1	85
26-2, 32	1144.8	11.7	0.4	94
26-2, 116	1145.7	5.7	0.8	41
26-3, 110	1147.1	11.1	0.4	89
26-3, 150	1147.5	11.1	0.7	86
26-4, 48	1148.0	6.7	0.6	50
26-4, 81	1148.3	11.3	0.5	90
27-2, 11	1154.1	8.7	1.8	57
27-2, 40	1154.4	11.1	0.1	92
27-3, 57	1156.1	7.9	0.4	62
27-4, 68	1157.7	4.4	0.6	32
27-4, 125	1158.3	9.5	0.3	76
28-2, 41	1163.9	5.7	1.3	36
29-4, 125	1177.3	9.6	1.1	70
30-2, 64	1183.1	11.2	0.1	93
30-2, 110	1183.6	10.0	0.1	83
30-2, 149	1184.0	10.7	0.1	88

Sample (Interval in cm)	Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 391C – Continued				
30-4, 23	1185.7	6.8	1.0	48
31-2, 51	1192.5	8.6	0.9	65
31-4, 38	1195.4	8.7	0.6	68
31-6, 8	1198.1	7.0	0.7	53
32-2, 186	1203.4	11.0	0.1	90
32-3, 18	1203.2	8.5	1.1	62
32-4, 63	1205.1	8.2	0.1	67
32-4, 180	1206.3	7.6	0.9	56
33-2, 77	1211.8	8.0	0.8	60
33-2, 121	1212.2	10.4	0.2	84
33-3, 19	1212.7	10.6	0.1	87
34-2, 1	1220.5	8.6	0.7	66
34-4, 43	1223.9	9.7	0.1	80
35-1, 49	1229.0	9.5	0.1	79
35-3, 11	1231.6	8.8	0.2	72
35-3, 11	1231.6	8.8	0.2	72
35-4, 0	1233.0	8.7	0.2	71
35-4, 30	1233.3	9.4	0.1	78
35-4, 69	1233.7	7.2	0.1	59
36-2, 88	1240.4	10.1	0.1	83
36-4, 73	1243.2	9.9	0.1	81
37-1, 134	1248.8	6.7	0.4	52
38-1, 132	1258.3	11.1	0.0	92
38-2, 67	1259.2	9.7	0.1	80
38-3, 7	1260.1	11.2	0.0	93
38-4, 47	1262.0	7.7	0.1	63
39-2, 38	1268.4	10.8	0.1	90
39-4, 14	1271.1	11.1	0.1	92
39-4, 100	1272.0	9.7	0.1	80
39-5, 70	1273.2	11.4	0.0	94
40-2, 0	1277.5	10.8	1.5	77
40-2, 40	1277.9	10.9	0.0	91
40-2, 76	1278.3	9.2	0.1	77
40-2, 100	1278.5	6.0	0.1	49
40-4, 96	1281.5	10.9	0.1	90
40-5, 71	1282.7	10.4	0.1	86
41-1, 53	1286.0	10.9	0.0	90
41-3, 49	1289.0	10.8	0.0	90
41-4, 50	1290.5	11.1	0.0	92
42-1, 50	1295.5	11.0	0.1	91
42-2, 50	1297.0	10.7	0.0	89
42-4, 10	1299.6	10.3	0.1	85
43-1, 27	1304.8	10.2	0.1	85
43-3, 126	1308.8	10.3	0.0	86
43-4, 95	1310.0	4.9	0.2	40
44-2, 35	1315.9	9.7	0.1	80
44-2, 71	1316.2	10.9	0.1	90
44-3, 31	1317.3	5.1	0.1	41
44-4, 55	1319.1	9.6	0.1	79
44-6, 25	1321.8	11.1	0.0	92
45-1, 109	1324.6	9.5	0.1	79
45-2, 53	1325.5	10.1	0.1	84
45-3, 52	1327.0	9.0	0.1	74
45-3, 69	1327.2	10.3	0.1	85
46-1, 67	1333.7	7.1	0.1	58
46-1, 143	1334.4	3.9	0.1	32
47-1, 44	1342.9	7.4	0.1	61
47-1, 108	1343.6	10.0	0.1	83
48-2, 65	1354.2	10.1	0.1	84
48-2, 121	1354.7	4.7	0.2	37
48-2, 125	1354.8	11.2	0.1	93
48-2, 150	1355.0	3.8	0.3	29
49-2, 28	1363.3	3.2	0.3	25

Sample (Interval in cm)	Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 391C – Continued				
49-2, 107	1364.1	10.4	2.3	68
50-1, 55	1371.6	4.5	0.2	36
52-2, 10	1391.6	2.7	0.6	17
52-2, 40	1391.9	3.1	0.4	22
52-2, 47	1392.0	3.7	0.4	27
52-4, 28	1394.8	3.5	0.2	27
52-4, 91	1395.4	7.0	0.6	53
Hole 392A				
1-2, 26	52.3	10.6	0.0	87
1-2, 95	53.0	10.9	0.0	91
2-1, 55	66.6	5.9	0.6	45
2-3, 53	69.5	5.1	0.1	42
3-1, 26	79.3	6.3	1.0	44
3-1, 47	79.5	7.8	0.0	65
3-2, 87	81.4	9.6	0.0	80
4-1, 117	89.7	6.5	0.0	54
5-2, 72	100.2	10.5	0.1	87
6-1, 82	108.3	11.8	0.0	97
8-1, 136	127.9	12.0	0.0	100
9-1, 44	136.4	11.6	0.1	96
10-2, 50	141.0	12.0	0.1	100
11-1, 106	146.6	11.5	0.0	95
13, CC	164.6	12.0	0.0	99
14, CC	174.1	11.9	0.0	99
15-1, 123	177.2	11.5	0.2	94
16-1, 106	184.6	11.8	0.0	98

Sample (Interval in cm)	Depth (m)	Total Carbon (%)	Organic Carbon (%)	CaCO ₃ (%)
Hole 392A – Continued				
17-1, 81	193.8	11.6	0.0	96
19-1, 72	212.7	11.9	0.1	99
20-1, 61	222.1	11.9	0.0	99
21-1, 114	232.1	12.0	0.1	100
22-1, 104	241.5	11.8	0.1	98
23-1, 132	251.3	12.0	0.0	99
25, CC	269.1	11.9	0.1	99
26-1, 100	279.5	11.9	0.0	99
27, CC	288.1	12.1	0.0	100
31, CC	326.1	12.0	0.1	100
Hole 393				
1-3, 50	3.5	2.6	0.3	20
1-3, 115	4.2	7.6	0.2	62
1-3, 140	4.4	2.1	0.4	15
1-4, 40	4.9	2.6	0.3	20
Hole 394A				
5-1, 75	279.8	10.3	0.4	82
5-2, 75	281.3	10.3	0.3	84
5-3, 75	282.8	10.9	0.2	89
6-1, 0	355.5	10.8	0.2	89
6-2, 84	357.8	11.0	0.6	86
6-3, 84	359.3	11.0	0.5	87
6-4, 84	360.8	10.3	0.3	83
6-5, 84	362.3	10.1	0.3	82
6-6, 84	363.8	3.3	1.4	16