

20. CARBON AND CARBONATE ANALYSES, LEG 32

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Leg 32 sediments were analyzed for total carbon and acid-insoluble (organic) carbon using a LECO acid-base Analyzer. The 3-cc sediment samples were first dried at 105°-110°C and then ground to a homogeneous powder. The ground sediment was redried and two samples, a 0.1-g and a 0.5-g sample, were then weighed into LECO clay crucibles. The 0.5-g sample was acidified with diluted hydrochloric acid and washed with distilled water. The sample was then dried and analyzed for acid-insoluble carbon, listed in the table as "organic" carbon. The 0.1-g sample was analyzed for total carbon without further treatment. If the result showed less than 10% CaCO₃, an additional 0.5-g sample was analyzed for greater accuracy. The calcium carbon 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 weight percent.

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

For control purposes a standard sediment was made up from Deep Sea Drilling material and analyzed for total carbon at predetermined intervals with the regular samples. Listed below is the statistical data for this standard.

DSDP Std.	No. of Samples	Total Carbon as %CaCO ₃	Standard Deviation	Maximum Range
2	36	80.1	0.9%	3.3%

These data indicate the precision of the mechanical aspect of the LECO analysis and do not necessarily reflect the precision of the total analytical procedure, which may be affected by factors such as sampling techniques and contamination during sampling and sample preparation.

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

TABLE 1
Carbon and Carbonate Analyses, Leg 32

Sample Interval (cm)	Subbottom Depth (m)	Total Carbon	Organic Carbon	CaCO ₃
SITE 305				
1-2, 117	2.7	8.4	0.2	68
1-5, 98	7.0	7.4	0.1	61
2-2, 101	10.5	7.3	0.1	60
2-3, 102	12.0	9.8	0.1	81
3-2, 102	19.5	10.5	0.1	87
4-2, 102	29.0	11.2	0.0	93
5-2, 135	38.4	8.8	0.1	73
5-4, 85	40.9	7.5	0.1	62
5-5, 112	42.6	10.3	0.0	86
6-2, 102	47.5	9.2	0.1	76
6-4, 90	50.4	8.8	0.1	73
6-5, 18	51.2	9.6	0.1	79
6-5, 126	52.3	11.3	0.0	94
7-2, 102	57.0	11.4	0.0	95
7-5, 53	61.0	11.0	0.0	91
8-2, 98	66.5	11.4	0.0	95
8-5, 102	71.0	11.5	0.0	95
9-2, 102	75.5	11.4	0.0	95
9-5, 98	80.0	11.2	0.0	93
10-2, 98	84.5	11.1	0.0	92
10-4, 130	87.8	11.4	0.0	95
10-5, 98	89.0	11.5	0.0	96
11-2, 72	93.7	11.6	0.0	96
11-5, 98	98.5	11.4	0.0	94
12-2, 92	103.4	11.4	0.0	95
12-5, 102	108.0	11.3	0.0	94
13-2, 104	113.0	11.5	0.0	96
13-5, 102	117.5	11.6	0.0	97
14-5, 102	127.0	11.6	0.0	96
15-4, 130	135.3	11.7	0.0	97
15-5, 103	136.5	11.5	0.0	96
16-2, 103	141.5	11.7	0.0	97
16-5, 5	145.1	11.7	0.0	97
17-5, 97	155.5	11.7	0.0	97
18-3, 77	161.8	11.7	0.0	97
18-5, 97	165.0	11.8	0.0	98
19-5, 101	174.0	11.7	0.0	97
20-2, 100	179.0	11.7	0.0	97
20-5, 100	183.5	11.7	0.0	98
21-2, 70	188.2	11.6	0.0	97
21-5, 100	193.0	11.7	0.0	97
21-5, 130	193.3	11.7	0.0	97
23-2, 90	207.4	11.7	0.0	97
23-5, 100	212.0	11.7	0.0	97
24-5, 102	221.0	11.8	0.0	98
25-2, 102	226.0	11.7	0.0	98
25-5, 102	230.5	11.7	0.0	98
26-5, 112	240.1	11.8	0.0	98
26-2, 122	235.7	11.6	0.0	97
47-1, 110	439.1	11.2	0.0	93
58-7, 0	550.0	7.6	0.0	63
60-1, 104	561.0	3.8	0.0	31
65-1, 100	608.0	10.4	9.3	9

TABLE 1 - Continued

Sample Interval (cm)	Subbottom Depth (m)	Total Carbon	Organic Carbon	CaCO ₃
SITE 306				
1-2, 133	2.8	7.2	0.1	60
6-1, 114	76.6	5.7	0.0	47
8-1, 104	114.0	4.9	0.0	41
21-1, 67	281.7	10.3	0.2	84
21-1, 144	282.4	10.7	1.2	79
24-1, 102	310.0	11.5	0.2	95
29-7, 0	364.5	11.5	0.1	95
36-7, 0	420.5	10.6	0.2	86
40-1, 110	450.6	10.5	0.2	86
41-1, 76	459.8	6.5	0.2	53
SITE 307				
9-1, 148	234.0	3.2	0.0	26
SITE 308				
1-1, 115	1.2	0.3	0.1	2
1-1, 120	1.2	0.5	0.1	3
2-2, 32	14.3	5.4	0.3	43
3-1, 85	41.4	7.4	0.4	58
SITE 310				
1-1, 9	0.1	8.1	0.1	67
1-2, 20	1.7	8.0	0.2	65
1-2, 99	2.5	4.6	0.2	37
2-3, 131	9.3	10.8	0.1	90
3-2, 102	17.0	10.2	0.1	85
3-5, 100	21.5	10.5	0.1	87
4-2, 40	25.9	8.3	0.1	68
4-5, 100	31.0	10.9	0.0	91
5-2, 99	36.0	10.9	0.0	90
5-5, 104	40.5	10.6	0.1	88
6-2, 100	45.5	11.4	0.0	94
6-5, 128	50.3	7.6	0.1	63
8-2, 90	64.4	9.0	0.0	75
9-6, 3	79.0	3.7	0.1	30
10-2, 100	83.0	11.6	0.0	97
10-6, 100	89.0	2.5	0.0	20
11-5, 99	97.0	9.0	0.0	75
12-2, 100	102.0	11.8	0.0	98
13-2, 100	111.5	11.7	0.0	98
13-6, 93	117.4	10.0	0.0	83

TABLE 1 - Continued

Sample Interval (cm)	Subbottom Depth (m)	Total Carbon	Organic Carbon	CaCO ₃
SITE 310 - (Continued)				
14-2, 100	121.0	11.2	0.0	93
16-4, 90	142.9	11.7	0.0	97
17-5, 100	154.0	11.6	0.0	97
18-4, 100	162.0	11.8	0.0	98
SITE 310A				
1-5, 100	102.0	11.7	0.0	97
2-2, 100	107.0	10.4	0.0	86
SITE 311				
2-5, 83	15.8	3.6	0.0	30
SITE 313				
1-2, 102	2.5	10.3	0.0	85
1-5, 52	6.5	2.9	0.1	24
2-2, 97	38.0	11.1	0.0	92
3-2, 99	76.0	11.5	0.0	96
3-5, 101	80.5	11.6	0.0	97
4-2, 100	114.0	11.7	0.0	97
4-5, 102	118.5	11.7	0.0	97
5-2, 72	151.7	11.4	0.0	95
5-5, 100	156.5	11.6	0.0	96
7-5, 93	174.9	11.1	0.0	92
9-1, 136	187.9	8.9	0.0	74
12-2, 101	207.5	9.1	0.0	76
13-2, 102	216.5	9.5	0.0	79
15-2, 52	234.5	11.1	0.0	92
16-2, 95	244.5	11.5	0.0	95
17-5, 68	267.2	11.2	0.0	93
18-1, 110	280.6	11.4	0.0	94
22-2, 120	399.7	10.6	0.0	88
24-3, 82	413.3	8.9	0.1	74
24-3, 123	413.7	0.9	0.1	7
24-5, 110	416.6	1.8	0.1	15
28-4, 54	452.5	5.5	0.1	46
30-1, 61	466.6	4.4	0.1	36
31-2, 66	477.7	8.9	0.1	73
33-2, 85	496.9	1.8	0.0	14
35-5, 95	520.5	8.5	0.1	70
35-4, 84	518.8	0.9	0.1	7
42-3, 145	583.0	11.3	0.0	94