II. LEG 55 SEDIMENT GRAIN SIZE AND CARBON/CARBONATE DATA

The Leg 55 Scientific Staff

CARBONATE BOMB

$CaCO_3$ content was determined on board ship by the "Karbonat Bomb" technique (Müller and Gastner, 1971). In this simple procedure, a sample is powdered and treated with HCl in a closed cylinder. Any resulting CO_2 pressure is proportional to the $CaCO_3$ content of the sample. Application of the calibration factor to the manometer reading ($\times 100$) yields per cent $CaCO_3$. The error can be as low as 1 per cent for sediments high in $CaCO_3$, and in general an accuracy of ± 2 to 5 per cent can be obtained.

These data are presented on the Core Description Forms for each site.

CARBON-CARBONATE ANALYSIS

After the cruise, sediment samples were analyzed at the DSDP sediment laboratory on a LECO WR-12 Carbon Analyzer. Sample preparation procedures are identical to those used with the old LECO 70 Analyzer, as outlined in Boyce and Bode (1972) and Bode (1973). Discussions of the LECO WR-12 Analyzer are presented in Bode (1979). Accuracy and precision of the results are as follows:

Total carbon = $\pm 0.3\%$ (absolute)
Organic carbon = $\pm 0.06\%$ (absolute)
$CaCO_3$ = $\pm 3\%$ (absolute)

The carbon-carbonate data are presented in Table 1.

TABLE 1
Carbon and Carbonate Analyses

Core-Section, Interval (cm)	Total Carbon	Organic Carbon	$CaCO_3$
Hole 430A			
1-1, 41	9.9	0.1	82
2-1, 125	8.9	1.0	66
4-1, 10	10.7	0.1	88
4-1, 34	0.2	0.1	1
Hole 431A			
1-1, 45	3.3	0.1	26
2-1, 69	0.2	0.0	2
Hole 432			
1-4, 104	6.7	0.2	55
Hole 432A			
2,CC, 25	0.1	0.1	0
Hole 433			
1-1, 98	3.5	0.1	28
1-3, 55	8.6	0.2	70
2-1, 145	7.5	0.2	61
3-1, 140	0.9	0.1	6
3-2, 91	9.9	0.3	80
3-5, 44	10.3	0.1	85
4-1, 55	6.8	0.3	54
4-2, 107	3.9	0.4	29
4-6, 40	7.3	0.2	59
10-3, 53	11.5	0.1	95
12-1, 95	10.7	0.1	89
14-1, 65	11.1	0.1	91
16-1, 62	11.3	0.1	93
19-1, 19	10.5	0.1	87
Hole 433A			
2-1, 145	7.5	0.2	61
3-1, 140	0.9	0.1	6
3-2, 91	9.9	0.3	80
3-5, 44	10.3	0.1	85
4-1, 55	6.8	0.3	54
4-2, 107	3.9	0.4	29
4-6, 40	7.3	0.2	59
10-3, 53	11.5	0.1	95
12-1, 95	10.7	0.1	89
14-1, 65	11.1	0.1	91
16-1, 62	11.3	0.1	93
19-1, 19	10.5	0.1	87
Hole 433B			
2-1, 32	11.1	0.1	91
2-1, 107	11.7	0.1	97
3-1, 44	11.1	0.1	92

GRAIN SIZE ANALYSIS

Distribution of sand-size, silt-size, and clay-size particles was determined from 10-cm^3 sediment samples at the DSDP sediment laboratory by standard sieve and pipette methods (Appendix III of Volume IV, *Initial Reports of the Deep Sea Drilling Project,* p. 745, with modified settling times as in Boyce, 1972). Grain size data are listed in Table 2. Textures in Table 2 use Shepard's (1954) sediment classification. The sand, silt, and clay boundaries are based on the Wentworth (1922) scale. Thus, the particle sizes of the sand, silt, and clay fractions range from 2000 to 62.5 μm, 62.5 to 3.91 μm, and less than 3.91 μm, respectively.

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TABLE 2
Grain Size Analyses

Core-Section, Interval (cm)	% Sand	% Silt	% Clay	Classification
Hole 430				
1-4, 48	74.4	13.5	12.0	Silty sand
Hole 430A				
1-1, 8	66.9	18.1	15.0	Silty sand
2-1, 40	73.4	17.8	8.8	Silty sand
Hole 431A				
2-1, 72	16.8	50.1	73.1	Clayey silt
Hole 432				
1-2, 77	36.7	50.2	13.0	Sandy silt
1-4, 82	89.3	5.8	5.0	Sand
Hole 433				
1-1, 123	31.8	47.1	21.1	Sand-Silt-Clay
1-3, 48	3.5	34.9	61.6	Silty clay
Hole 433A				
2-1, 140	3.1	44.5	52.4	Silty clay
3-2, 70	1.5	31.6	66.9	Silty clay
3-5, 45	0.7	26.1	73.2	Silty clay
4-1, 50	5.9	32.8	61.3	Silty clay
4-2, 58	24.6	38.7	36.7	Sand-Silt-Clay
4-3, 60	8.4	35.7	55.9	Silty clay
4-6, 68	3.7	33.6	62.8	Silty clay
5-2, 138	1.7	30.3	68.1	Silty clay
5-4, 32	1.9	22.8	75.3	Clay
5-5, 45	2.0	29.6	68.4	Silty clay
6-1, 60	2.8	29.5	67.7	Silty clay
6-2, 92	1.3	27.9	70.8	Silty clay
6-3, 100	3.3	26.2	70.5	Silty clay
6-4, 70	1.8	28.8	69.4	Silty clay
6-5, 80	2.9	29.4	67.6	Silty clay
6-6, 20	1.2	26.5	72.3	Silty clay
6-6, 95	4.3	35.3	60.4	Silty clay
6-6, 127	1.1	34.0	65.0	Silty clay
6-7, 3	0.4	42.2	57.4	Silty clay
6-7, 37	24.1	42.9	33.0	Sand-Silt-Clay
7-1, 70	72.3	12.3	15.3	Clayey sand
7-5, 80	66.6	12.8	20.6	Clayey sand
7-6, 91	58.9	19.4	21.7	Clayey sand
8-1, 36	91.6	2.9	5.5	Sand
8-1, 146	63.8	14.3	21.9	Clayey sand
8-3, 11	31.9	22.4	45.6	Sand-Silt-Clay
8-5, 69	62.5	17.5	20.0	Clayey sand
8-7, 30	34.7	34.9	30.4	Sand-Silt-Clay
9-2, 36	77.8	7.2	15.0	Sand
9-6, 8	93.8	1.3	4.8	Sand
10-6, 94	37.0	33.8	29.2	Sand-Silt-Clay
12-1, 92	69.8	23.2	7.0	Silty sand
14-1, 66	70.8	11.2	18.0	Clayey sand
16-1, 63	68.6	13.0	18.4	Clayey sand
19-1, 28	93.0	1.9	5.1	Sand
Hole 433B				
1-1, 34	75.5	10.1	14.5	Sand
1-4, 129	61.7	15.7	22.6	Clayey sand
Hole 433C				
3-2, 109	95.9	0.5	3.6	Sand

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