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45. *DATA REPORT:* $CaCO_3$ CONTENT AND BULK DENSITY OF LEG 138 SITE-SURVEY PISTON CORES[1]

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ABSTRACT

Nine piston cores and six triggerweight cores retrieved from the eastern equatorial Pacific Ocean during the Venture 1 expedition were analyzed for dry-bulk density (DBD) and $CaCO_3$ content. Sites are located along a north-south transect at 110°W from 11°N to 3°S and along an east-west transect from 110° to 90°W, at approximately 3°S. The data reveal two DBD-$CaCO_3$ relationships and four patterns of $CaCO_3$ abundance.

INTRODUCTION

During the late summer of 1989, the *Thomas Washington* surveyed and cored potential sites for Ocean Drilling Program (ODP) drilling during Leg 138 (Mayer, Pisias, Janecek, et al., 1992). During that cruise, Venture Leg 1, scientists recovered the best new suite of piston cores from the Pacific Ocean in more than 15 yr. Twenty cores were raised from two north-south profiles that cross the equatorial current systems and the Intertropical Convergence Zone at longitudes 110° and 95°W, a joining east-west transect along about 3°S, and a depth transect down the north side of the Cocos Ridge.

To preserve the original physical properties of these cores, each section was taped, sealed with beeswax, and taped again before storing in a refrigerated van. The van with the cores was shipped back to the core laboratory at Oregon State University without interruption of the refrigeration system. Cores were kept sealed under refrigeration until their opening. Prior experience with these methods of curation indicates that essentially all moisture loss is prevented for at least 1 yr by these precautions (L.A. Mayer, pers. comm., 1990). Carbonate-rich cores from the 110°W and 3°S transects were opened, described, and sampled in May 1990. Those cores (Fig. 1; Table 1) form the basis of ongoing research at the University of Michigan and Oregon State University (Snoeckx and Rea, 1994).

Here, we provide the carbonate and bulk density data derived from the Venture-1 cores and two older Vema-28 cores to place these in the public domain and to ensure that all pertinent paleoceanographic data from the eastern equatorial Pacific Ocean can be assembled into this volume.

METHODS OF ANALYSIS

Nine piston cores and six triggerweight cores were used for this study. Six of the sites, VNTR01 -01, -04, -06, -07, -08, and -09, form a north-south transect along 110°W from 11°N to 3°S. Four, VNTR01-09, -10, -12, and -13, form an east-west transect along approximately 3°S, between 110° and 90°W (Fig. 1; Table 1).

Piston cores for all sites and the corresponding triggerweight cores for Sites VNTR01 -01, -04, -06, -09, -10, and -13 were sampled at approximately 5000-yr intervals. Preliminary age estimates were based on carbonate stratigraphy, as revealed by magnetic susceptibility measurements conducted on board the *Thomas Washington* (Arason, 1990). The samples span late Pleistocene to present time. Holocene sediments were recovered at the top of most piston cores. The triggerweight cores completely overlap the top of the piston cores, except for Core VNTR01-13GC, which overlaps VNTR01-13PC by approximately 40 cm and adds an extra 2.2 m to the top of the piston core record. No hiatuses were apparent. The database comprises 1110 samples.

Dry-bulk Density

Dry-bulk density (DBD) is defined as the mass of dry sediment per unit volume of wet sample. Ideally, it is determined from fixed volumes of fresh sample by determining the grain density (mass of dry sediment per unit volume of dry sediment) and measuring the water content (or water loss) and, hence, the porosity.

$$\text{DBD (g/cm}^3) = (1 - P) \cdot \rho \text{ (g/cm}^3), \quad (1)$$

whereby P is porosity and ρ is grain density and

$$P = (H_2O \text{ wt}/\rho_{H_2O})/(\text{dry wt}/\rho + H_2O \text{ wt}/\rho_{H_2O}).$$

Grain densities were determined on samples of known volume at intervals of approximately 25 cm for piston Cores 01, 04, 06, 09, 10, and 13 (Mayer, pers. comm., 1991) and were interpolated for the intervening samples.

$$\rho = [\text{dry wt} - (\%\text{salt}/(100 - \%\text{salt})] \cdot [\text{wet wt}/(\text{vol}_{tot} - \text{vol}_{H_2O})]. \quad (2)$$

The salt was estimated at 3.47%. No known-volume samples were available for the triggerweight cores or for piston Cores 07, 08, and 12. However, a linear relationship between the DBD at known grain density and the DBD at an assumed grain density of 2.65 g/cm^3 allows for a more precise DBD determination for Cores 07, 08, and 12 and the gravity cores, using the equation:

$$\text{DBD}_{real} = -0.001 + 0.9744 \cdot \text{DBD}_{2.65} \ (r = 0.998, r^2 = 0.9997), \quad (3)$$

whereby $\text{DBD}_{2.65}$ is obtained by substituting 2.65 g/cm^3 for ρ in Equation 1. The resulting DBD values range from 0.25 to 0.91 g/cm^3, reflecting variation in the relative proportion of $CaCO_3$, opal, and clay in the sediment.

Percentage of $CaCO_3$

The $CaCO_3$ content of the Venture samples was determined using the carbonate bomb method and a sample size of 0.5 g. Two control samples, consisting of a laboratory standard of homogenized $CaCO_3$, ooze were analyzed after every 15 samples. Results of these and

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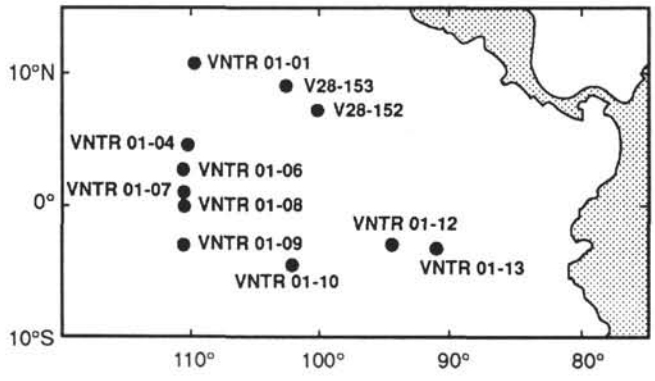

Figure 1. Location of the Venture-1 and Vema-28 sites.

replicate analyses of samples yield an analytical precision of better than 1%.

DISCUSSION OF DATA

Relationship of Dry-bulk Density to $CaCO_3$

The apparently close relationship between DBD and $CaCO_3$ content in sediments has been used in several studies to determine a quantitative relationship for estimating reliable DBDs based upon $CaCO_3$ percentages. The data disclose the existence of two DBD-$CaCO_3$ relationships in the eastern equatorial Pacific, seen in Figure 2 as two apparently parallel, crescent-shaped groupings of data points. For equal percentages of $CaCO_3$, the top group has a higher DBD resulting from (1) different carbonate (and silica) secreting organisms having different porosities or (2) a greater relative abundance of a denser component in the noncarbonate fraction.

The top, relatively more dense data cluster in Figure 2 consists of samples of Cores VNTR01-01PC, -12PC, and -13PC, the bottom group of samples of Cores VNTR01-04PC, -06PC, -07PC, -08PC, -09PC, and -10PC but also, in the low carbonate end, of samples from a portion of Cores VNTR01-12PC, -13GC, and -13PC. No low carbonate (<40%) samples from Cores VNTR01-12PC, -13GC, and -13PC are present in the upper data cluster.

The two groupings of data can be characterized by the following quantitative expressions:

For the top group ($N = 380$):

$$DBD = (3.60 - 0.0279 \cdot \%CaCO_3)^{-1}. \quad (4)$$

The correlation coefficient (r) is +0.964 and the standard error of estimate for predicting DBD from percentage of $CaCO_3$ is ± 0.033 g/cm^3.

For the bottom group ($N = 730$):

$$DBD = (4.28 - 0.0334 \cdot \%CaCO_3)^{-1}. \quad (5)$$

The correlation coefficient (r) is +0.941 and the standard error of estimate for predicting DBD from percentage of $CaCO_3$ is ± 0.039 g/cm^3.

A student t-test, performed on the two groupings (t-value of 16.46), shows that the two groups are statistically different at the 99.95% confidence level (critical value = 3.29).

Abundance Patterns of $CaCO_3$

Correlation among the cores is based on the carbonate stratigraphy and unpublished oxygen isotope data (provided by A. Mix). Stage numbers were assigned according to the Hays et al. (1969) nomenclature, with odd numbers corresponding to interglacials and even numbers to glacials. Note that, except for stage 1, the numbers for carbonate stages differ by –2 from those employed in $\delta^{18}O$ stratigraphy.

Four patterns of $CaCO_3$ abundances can be seen in the eastern equatorial Pacific (Figs. 3 and 4). The $CaCO_3$ record of Site VNTR01-04 is the only one that approximates the well-known Pacific Ocean pattern described by Hays et al. (1969). The record shows the nine carbonate peaks of the Brunhes series and reaches into the Matuyama (carbonate stage M2). The height of the peaks ($CaCO_3$ maxima) tends to decline downcore from 85% $CaCO_3$ in stage B-2 to 75% $CaCO_3$ in stage B-6 (at about 250,000 yr ago) and then returns gradually to higher values. The amplitude is large, 20% to 40%; lowest $CaCO_3$ values are reached in stages B-11 and M-1.

The carbonate abundance pattern of Core VNTR01-01PC is irregular, with large amplitude spikes (Fig. 3). Carbonate values range from 20% to 70%; low values near 400 cm correspond to an ash layer. Initial results suggest that the Brunhes/Matuyama (B/M) reversal boundary occurs at a shallow depth in this core, at about 330 cm ± 30 cm (S. Levi, pers. comm., 1992). Tentative correlation to the cores to the south is based on the B/M reversal boundary depths in Cores VNTR01-01PC and 04PC (Fig. 3).

Sediments at Sites VNTR01-06, 07, -08, -09, and -10 are generally high in $CaCO_3$ (average 74% to 82%) with low glacial/interglacial

Table 1. Location and depth of the VNTR01 cores and corresponding Leg 138 sites, and of two cores from cruise *Vema*-28.

Core	Latitude	Longitude	Depth (mbsf)	Core length (cm)	Piston core	Trigger weight core	Corresponding Leg 138 site
VNTR01-01	11°15.2′N	109°36.9′W	3536	751	x	x	854
VNTR01-04	5°20.9′N	110°04.8′W	3855	827	x	x	852
VNTR01-06	2°45.4′N	110°35.0′W	3764	743	x	x	851
VNTR01-07	1°01.1′N	110°34.1′W	3772	742	x		850
VNTR01-08	0°02.3′N	110°28.5′W	3800	869	x		849
VNTR01-09	3°00.2′S	110°29.4′W	3860	779	x	x	848
VNTR01-10	4°30.4′S	102°00.9′W	3405	945	x	x	
VNTR01-12	3°00.9′S	95°04.9′W	3535	806	x		
VNTR01-13	3°05.3′S	90°49.5′W	3304	924	x	x	846
V28-152	7°18′N	100°11′W	3347	902	x		
V28-153	9°03′N	102°40′W	3272	963	x		

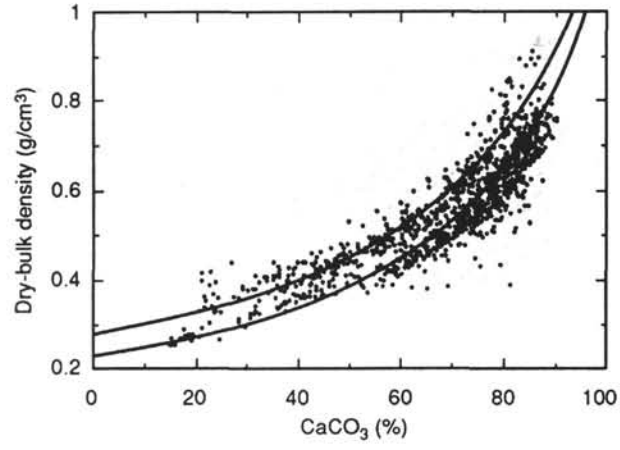

Figure 2. Percentage of $CaCO_3$ vs. dry-bulk density (DBD). Data points form two apparently parallel, crescent-shaped groupings. For equal percentages of $CaCO_3$, the top group has higher DBD as a result of (1) different carbonate (and silica) secreting organisms having different porosities or (2) a relatively greater abundance of a denser component in the noncarbonate fraction. The top group consists of samples from Cores VNTR01-01, -12 and -13; the bottom group of samples of Cores VNTR01-04, -06, -07, -08, -09, and -10, but also, in the low carbonate end, of samples from cores VNTR01-12 and -13. No low carbonate samples (<40%) from Cores VNTR01-12 and -13 are present in the top group.

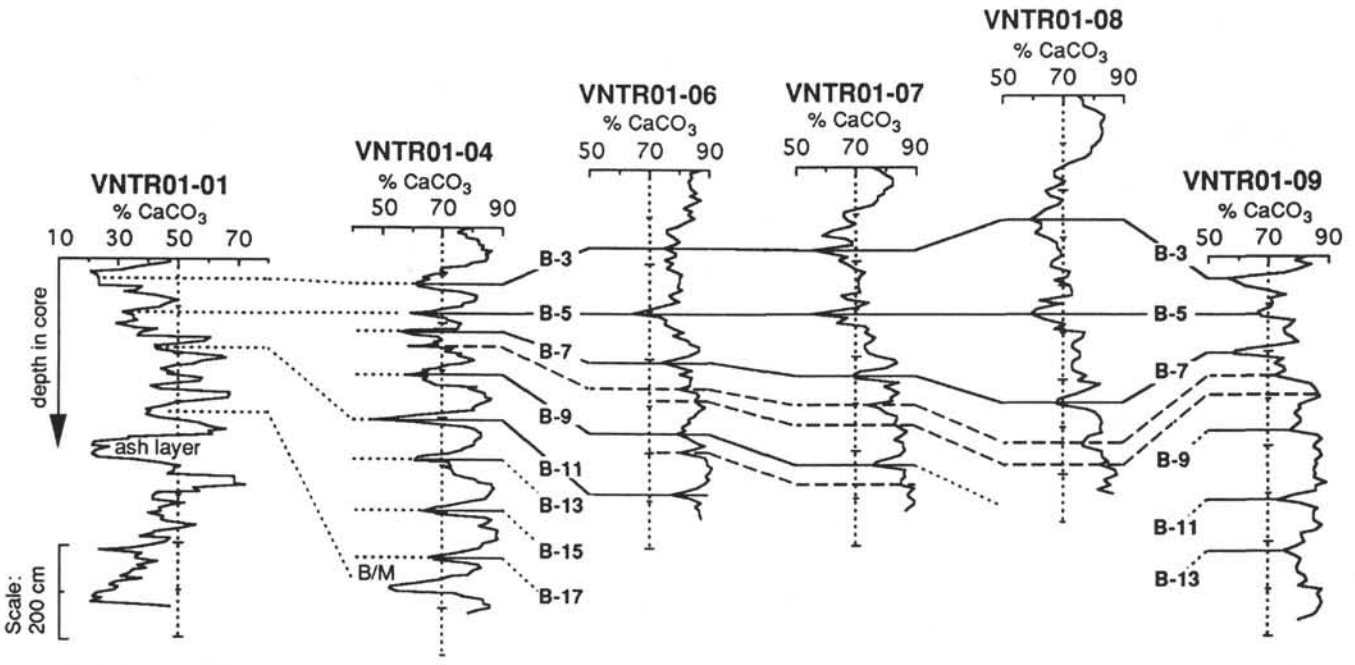

Figure 3. Carbonate stratigraphy along 110°W. Cores are aligned left to right from north to south. Records are aligned at correlative carbonate values within interglacial stage B-5. Correlation is based on carbonate and isotope stratigraphy.

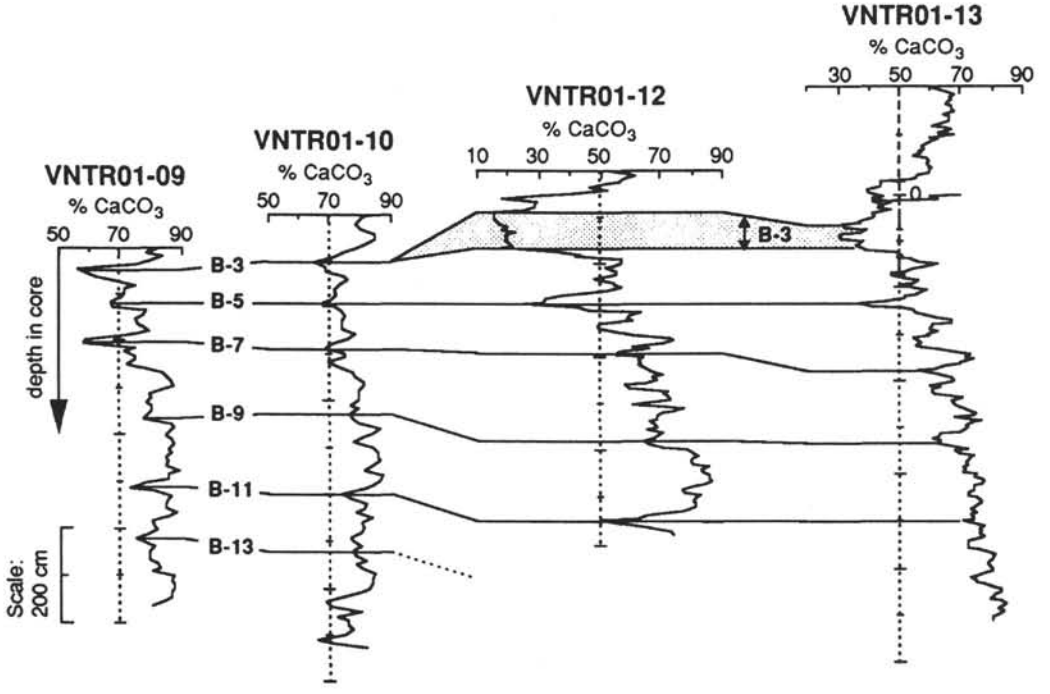

Figure 4. Carbonate stratigraphy along 3°S. Cores are aligned left to right from west to east. Records are aligned at correlative carbonate values within interglacial stage B-5. Correlation is based on carbonate and isotope stratigraphy. The record for Core VNTR01-13 consists of data from Cores VNTR01-13GC from 0 to 265 cm (dashed line) and VNTR01-13PC. The top of Core VNTR01-13PC is indicated by "0" on the vertical axis. Cores VNTR01-13GC and VNTR01-13PC overlap approximately 40 cm.

amplitude (Figs. 3 and 4). A long period trend having a minimum centered at carbonate stages B-3 to B-5 is noticeable, especially in the records of Cores VNTR01-07PC and -08PC. The combination of this long period trend and small glacial/interglacial amplitude describes an abundance pattern of $CaCO_3$ associated with the South Equatorial Current. Core VNTR01-06 displays an intermediate $CaCO_3$ preservation pattern between this pattern and the central equatorial Pacific pattern, as represented in Core VNTR01-04PC (Fig. 3).

The records for Cores VNTR01-12PC and -13GC display a minimum/maximum pattern that is characterized by a pronounced interglacial stage B-3 with very low $CaCO_3$ percentages (15%–20% in Core VNTR01-12PC and 37%–40% in Core VNTR01-13GC) and sub-

sequent increasing $CaCO_3$ percentages downcore for glacial stages B-4 (55% $CaCO_3$) to B-10 (82% and 87% for 13PC and 12PC, respectively), separated by prominent stage B-5 low and weak minima for interglacial stages B-7 and B-9 (Fig. 4).

Sedimentation rates along the north-south transect increase fivefold between 11°N and the equator, from 0.4 to 2.2 cm/k.y. The northernmost Site VNTR01-01 is 239 to 324 m shallower than the other sites in the transect, emphasizing the deepening of the carbonate compensation depth (CCD) towards the equator. Along the 3°S transect (Fig. 3), observed sedimentation rates increase toward the east, from 1.1 cm/k.y. at Site VNTR01-09 at 110°W to 1.9 cm/k.y. at Site VNTR01-13 at 90°W. The depth span corresponding to interglacial stage B-3 and the intensity of the carbonate minimum increase toward the east. Surface samples have smaller $CaCO_3$ contents in the easternmost cores, which, given the shallower depth of Sites VNTR01-12 and -13, indicates a shallowing of the lysocline in the eastern part of the equatorial Pacific Ocean.

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* Abbreviations for names of organizations and publication titles in ODP reference lists follow the style given in *Chemical Abstracts Service Source Index* (published by American Chemical Society).

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Table 2. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Core VNTR01-01PC.

Sample depth (cm bsf)	DBD (g/cm³)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm³)	$CaCO_3$ (%)
0	0.43	47.4	378	0.41	33.4
6	0.42	47.1	384	0.41	33.7
11	0.44	45.3	390	0.35	21.8
18	0.43	36.2	396	0.36	21.8
24	0.41	31.6	402	0.44	26.9
30	0.40	21.0	408	0.42	22.8
36	0.39	22.7	414	0.42	21.1
42	0.33	23.9	420	0.34	23.4
48	0.37	23.3	426	0.38	34.9
56	0.40	23.9	432	0.42	43.9
60	0.38	37.8	438	0.44	50.8
66	0.36	35.5	444	0.46	48.8
72	0.39	32.3	450	0.47	48.8
77	0.39	42.2	456	0.43	46.7
84	0.45	48.8	462	0.63	68.5
90	0.48	49.5	468	0.63	68.9
96	0.43	45.9	474	0.65	68.8
102	0.42	43.4	480	0.62	72.5
108	0.40	37.8	486	0.48	55.2
114	0.38	31.6	492	0.52	57.1
120	0.40	35.0	497	0.44	42.7
126	0.44	35.2	504	0.41	41.2
132	0.41	36.2	510	0.44	41.4
138	0.39	29.2	516	0.46	52.2
144	0.41	35.8	522	0.45	47.9
150	0.46	42.7	528	0.44	43.3
155	0.43	38.2	534	0.46	44.3
162	0.42	36.4	540	0.44	39.8
168	0.53	60.7	546	0.42	45.1
174	0.49	58.3	552	0.38	44.6
180	0.43	47.7	558	0.39	46.1
186	0.41	42.3	564	0.43	56.0
192	0.40	42.9	570	0.41	50.2
199	0.46	51.6	576	0.37	42.3
204	0.55	64.0	582	0.37	41.1
210	0.53	66.0	588	0.39	37.5
216	0.49	57.6	592	0.45	47.2
222	0.47	54.6	600	0.43	45.6
228	0.44	48.3	606	0.41	41.0
234	0.43	44.4	612	0.37	34.2
241	0.48	48.3	618	0.33	23.6
246	0.47	46.2	624	0.40	38.1
252	0.51	58.1	630	0.39	35.9
258	0.50	56.9	636	0.41	35.4
264	0.43	46.2	642	0.43	42.8
270	0.39	40.7	648	0.41	36.4
276	0.41	44.4	654	0.43	39.3
282	0.54	66.9	660	0.41	35.2
288	0.55	66.9	666	0.40	33.9
294	0.55	66.5	672	0.38	31.0
300	0.48	55.9	678	0.41	38.1
306	0.45	49.2	684	0.38	29.1
312	0.44	45.8	690	0.36	27.4
318	0.41	39.1	696	0.38	30.1
324	0.44	40.7	702	0.36	28.4
330	0.43	39.1	708	0.34	23.2
336	0.45	43.5	714	0.34	21.7
342	0.52	52.6	720	0.36	24.3
348	0.54	56.8	726	0.33	20.6
355	0.57	60.1	732	0.41	41.2
360	0.61	65.4	736	0.41	47.5
366	0.55	60.3			
372	0.57	61.1			

Table 3. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Cores VNTR01-04PC and VNTR01-04GC.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
Core VNTR01-04PC			345	0.69	83.2	695	0.48	67.4
0	0.62	80.2	350	0.72	84.4	700	0.50	66.9
5	0.58	76.9	355	0.74	84.0	705	0.61	77.7
10	0.60	75.2	360	0.77	86.6	710	0.65	82.3
15	0.60	77.8	365	0.77	85.7	715	0.69	82.6
20	0.59	78.1	370	0.72	83.2	720	0.68	81.0
25	0.61	81.1	375	0.69	81.8	725	0.67	79.7
30	0.52	82.2	380	0.66	80.0	730	0.62	78.2
35	0.60	82.1	385	0.65	80.4	735	0.56	73.1
40	0.63	83.9	390	0.56	74.7	740	0.50	68.8
45	0.59	82.8	395	0.44	60.9	745	0.46	64.9
50	0.83	86.3	400	0.42	57.4	750	0.44	61.4
55	0.57	84.0	405	0.37	47.3	755	0.38	52.8
60	0.66	85.1	410	0.42	59.3	760	0.39	52.4
65	0.74	85.1	415	0.54	71.0	765	0.43	55.3
70	0.72	84.4	420	0.64	77.7	770	0.58	74.0
75	0.67	80.1	425	0.66	80.9	775	0.63	77.5
80	0.64	77.8	430	0.70	82.2	780	0.66	81.1
85	0.60	70.1	435	0.72	83.1	785	0.70	83.5
90	0.56	69.1	440	0.70	82.6	790	0.71	83.6
95	0.54	71.5	445	0.67	82.5	795	0.70	85.6
100	0.55	66.8	450	0.66	80.4	800	0.68	85.4
105	0.51	63.4	455	0.66	81.0	805	0.62	82.3
110	0.53	65.5	460	0.65	80.7	810	0.56	78.8
115	0.52	61.4	465	0.59	77.4			
120	0.54	61.6	470	0.56	76.1	Core VNTR01-04GC		
125	0.50	62.0	475	0.54	72.0	0	0.53	76.3
130	0.57	68.6	480	0.49	64.9	5	0.56	77.3
135	0.60	75.7	485	0.46	62.0	10	0.60	78.5
140	0.64	80.7	490	0.51	60.8	15	0.59	78.1
145	0.66	81.1	495	0.55	72.2	20	0.59	79.3
150	0.39	81.2	500	0.56	72.6	25	0.61	81.2
155	0.63	80.6	505	0.54	70.6	30	0.63	82.5
160	0.58	76.8	510	0.56	72.5	35	0.67	86.0
165	0.57	76.5	515	0.59	73.4	40	0.63	84.2
170	0.54	71.7	520	0.61	73.2	45	0.24	86.8
175	0.47	66.4	525	0.60	76.8	50	0.67	85.6
180	0.42	59.1	530	0.63	80.4	55	0.67	84.6
185	0.45	62.9	535	0.67	82.2	60	0.65	84.8
190	0.57	71.1	540	0.72	86.4	65	0.62	81.5
195	0.56	71.3	545	0.73	86.2	70	0.59	78.0
200	0.61	76.5	550	0.72	86.9	75	0.51	70.4
205	0.58	75.5	555	0.74	86.3	80	0.53	71.8
210	0.53	75.0	560	0.74	85.4	85	0.50	67.6
215	0.43	59.2	565	0.73	85.2	90	0.52	66.8
220	0.40	56.7	570	0.70	84.1	95	0.46	61.9
225	0.52	61.0	575	0.63	79.9	100	0.49	61.4
230	0.46	68.7	580	0.61	77.6	105	0.50	61.4
235	0.49	70.1	585	0.53	71.7	110	0.48	57.5
240	0.49	67.1	590	0.49	67.8	115	0.48	60.9
245	0.49	68.2	595	0.46	63.8	120	0.52	67.7
250	0.47	62.0	600	0.51	67.3	125	0.62	81.1
255	0.60	73.6	605	0.56	68.5	130	0.63	82.1
261	0.54	70.5	610	0.68	84.4	135	0.65	82.8
266	0.62	76.3	615	0.72	86.4	140	0.62	80.4
270	0.60	75.3	620	0.71	84.8	145	0.58	78.4
275	0.64	79.1	625	0.72	83.4	150	0.54	75.3
280	0.66	80.5	630	0.70	82.1	155	0.52	75.0
285	0.61	76.8	635	0.78	87.7	160	0.49	71.7
290	0.54	72.4	640	0.76	88.4	165	0.43	65.4
295	0.50	68.1	645	0.70	88.1	170	0.45	63.3
300	0.46	63.3	650	0.71	87.8	175	0.48	64.9
305	0.49	65.2	655	0.72	88.7	180	0.52	70.3
310	0.42	58.3	660	0.69	86.6	185	0.60	77.1
315	0.46	65.3	665	0.70	83.6	190	0.63	81.4
320	0.45	63.9	670	0.67	83.0	195	0.64	83.9
325	0.49	66.0	675	0.69	82.3	200	0.52	76.4
330	0.50	67.6	680	0.62	77.4	205	0.44	66.7
335	0.66	81.7	685	0.56	74.0	210	0.51	70.2
340	0.65	78.9	690	0.49	66.3			

Table 4. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Cores VNTR01-06PC and VNTR01-06GC.1

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
Core VNTR01-06PC			448	0.70	83.4
0	0.62	87.7	456	0.72	83.6
8	0.60	83.8	464	0.63	80.3
16	0.60	84.0	473	0.71	85.7
24	0.60	82.7	480	0.69	86.2
32	0.58	83.8	488	0.71	84.7
40	0.59	83.6	496	0.74	86.5
48	0.63	85.4	504	0.77	88.5
56	0.59	83.7	512	0.74	86.6
64	0.68	87.3	520	0.68	84.7
72	0.67	85.2	528	0.70	82.8
80	0.61	81.4	536	0.65	83.5
88	0.66	84.3	544	0.65	81.0
96	0.63	82.6	552	0.67	82.2
104	0.66	85.0	560	0.63	79.5
112	0.60	81.4	568	0.70	83.0
120	0.58	79.4	576	0.67	86.0
128	0.50	75.8	584	0.74	88.5
136	0.57	75.8	592	0.71	85.2
143	0.59	78.2	600	0.71	80.1
152	0.59	80.2	608	0.75	88.4
160	0.57	77.8	616	0.72	89.5
168	0.57	75.1	624	0.72	89.2
176	0.62	78.6	632	0.75	90.4
184	0.61	78.5	640	0.76	89.8
192	0.61	75.2	648	0.72	88.3
200	0.59	77.7	656	0.76	90.2
208	0.57	75.9	664	0.73	88.8
216	0.61	78.2	672	0.67	85.6
224	0.62	80.9	680	0.62	82.0
232	0.60	80.0	688	0.59	77.1
240	0.56	80.3	695	0.69	83.9
247	0.53	79.5	704	0.70	87.2
256	0.57	80.5	712	0.69	84.7
264	0.54	76.6	720	0.73	86.5
272	0.51	77.7	728	0.69	86.1
280	0.57	79.9	736	0.68	86.9
288	0.50	74.9			
296	0.46	68.7	Core VNTR01-06GC		
304	0.42	64.6	0	0.66	86.0
312	0.51	73.5	8	0.60	84.4
320	0.57	75.8	16	0.61	84.7
327	0.54	74.8	24	0.60	82.5
336	0.58	78.7	32	0.61	83.1
344	0.61	81.3	40	0.62	84.7
352	0.58	78.0	48	0.63	85.7
360	0.59	82.7	56	0.63	85.7
369	0.67	83.9	64	0.64	85.7
376	0.70	86.1	72	0.62	85.8
384	0.69	86.6	80	0.66	85.7
392	0.62	83.0	88	0.69	87.2
400	0.59	78.5	96	0.63	85.3
409	0.52	74.3	104	0.63	82.9
416	0.56	78.1	112	0.65	84.7
424	0.69	84.0	120	0.61	81.7
432	0.65	80.3	128	0.59	78.9
440	0.71	84.5			

Table 5. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Core VNTR01-07PC.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
0	0.54	74.7	376	0.55	73.2
8	0.56	77.5	384	0.54	73.2
16	0.57	80.2	392	0.53	74.1
24	0.60	82.4	400	0.60	77.4
32	0.61	81.9	408	0.64	82.8
40	0.65	82.3	416	0.64	83.2
48	0.57	79.0	424	0.63	80.1
56	0.64	79.3	432	0.52	71.7
64	0.60	77.3	440	0.49	69.1
72	0.57	76.8	448	0.50	70.1
80	0.53	75.6	456	0.73	84.1
88	0.48	71.4	464	0.66	79.5
96	0.46	66.4	472	0.66	81.9
104	0.45	65.5	480	0.71	84.0
112	0.49	67.1	488	0.67	81.6
120	0.49	70.2	496	0.68	82.5
128	0.49	67.9	504	0.60	73.9
136	0.44	62.3	512	0.66	78.1
144	0.42	58.9	520	0.72	80.1
152	0.50	66.8	528	0.66	83.3
160	0.52	68.3	536	0.67	83.8
168	0.50	68.8	544	0.68	82.9
176	0.43	56.1	552	0.71	85.2
184	0.46	61.9	560	0.83	87.4
192	0.48	67.2	568	0.75	85.7
200	0.45	64.4	576	0.70	82.6
208	0.48	67.7	584	0.74	85.7
216	0.49	69.3	592	0.76	86.0
224	0.53	72.6	600	0.75	86.6
232	0.51	71.6	608	0.71	84.7
240	0.52	70.5	616	0.68	81.4
248	0.51	70.5	624	0.59	77.1
256	0.52	70.5	632	0.57	75.6
264	0.53	71.8	640	0.77	86.3
272	0.46	65.0	648	0.75	86.0
280	0.50	67.2	656	0.76	86.7
288	0.55	74.4	664	0.71	85.3
296	0.49	69.9	672	0.70	85.0
304	0.44	62.9	680	0.77	89.0
312	0.39	55.3	688	0.75	88.0
320	0.48	67.0	696	0.69	87.5
328	0.03	63.5	704	0.79	89.3
336	0.55	73.2	712	0.81	89.3
344	0.58	74.4	720	0.78	87.8
352	0.53	72.6	728	0.77	86.6
360	0.56	76.5			
368	0.56	74.7			

Table 6. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Core VNTR01-08PC.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
1	0.56	75.0	431	0.47	62.3
11	0.55	76.5	441	0.44	69.2
21	0.50	76.7	451	0.43	61.4
31	0.60	81.0	461	0.42	59.5
41	0.63	83.8	471	0.43	63.5
51	0.62	83.5	481	0.52	70.8
61	0.61	82.4	491	0.49	67.2
71	0.63	83.1	501	0.64	76.8
81	0.65	82.7	511	0.60	76.1
91	0.64	81.9	521	0.53	73.5
101	0.64	80.9	531	0.51	72.6
111	0.64	79.4	541	0.56	75.7
121	0.63	79.2	551	0.55	75.4
131	0.60	77.1	561	0.58	73.4
141	0.56	72.4	571	0.60	73.0
151	0.52	69.5	581	0.57	73.4
161	0.51	67.3	591	0.62	77.8
171	0.53	67.0	601	0.66	75.0
181	0.54	70.7	611	0.66	82.4
191	0.50	68.1	621	0.63	78.8
201	0.49	64.6	631	0.57	74.3
211	0.49	65.5	641	0.48	68.7
221	0.55	70.0	651	0.48	67.9
231	0.52	68.8	661	0.63	77.5
241	0.51	64.6	671	0.65	80.9
251	0.38	62.2	681	0.68	82.3
261	0.46	59.1	691	0.68	82.6
271	0.45	63.0	701	0.77	82.5
281	0.46	62.8	711	0.76	83.0
291	0.45	60.6	721	0.67	78.7
301	0.48	64.8	731	0.68	77.1
311	0.50	67.7	741	0.71	76.5
321	0.50	68.1	751	0.74	82.7
331	0.53	69.1	761	0.63	82.9
341	0.53	69.1	771	0.70	84.7
351	0.50	66.2	781	0.71	82.3
361	0.50	65.9	791	0.80	86.9
371	0.52	72.2	801	0.84	87.7
381	0.52	71.5	811	0.76	83.6
391	0.50	67.0	821	0.79	85.4
401	0.55	72.4	831	0.74	81.5
411	0.57	73.1	841	0.77	86.3
421	0.53	72.7			

Table 7. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Cores VNTR01-09PC and VNTR01-09GC.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
Core VNTR01-09PC		
0	0.55	83.2
9	0.53	78.5
18	0.62	84.3
27	0.58	79.3
36	0.54	75.0
45	0.39	56.5
54	0.41	59.1
63	0.45	62.9
72	0.50	68.8
81	0.57	75.4
90	0.53	71.0
99	0.51	71.8
108	0.50	71.0
117	0.45	66.8
126	0.48	68.0
135	0.60	78.5
144	0.54	77.3
153	0.54	74.7
162	0.56	75.6
171	0.57	77.9
180	0.65	79.7
189	0.53	72.6
198	0.41	59.4
207	0.39	58.4
216	0.57	74.7
225	0.51	71.8
234	0.54	74.8
241	0.57	75.4
252	0.54	72.3
261	0.60	79.1
270	0.65	84.0
279	0.74	85.8
288	0.77	86.6
297	0.77	87.4
306	0.66	84.0
315	0.61	79.8
324	0.59	80.6
332	0.57	78.5
342	0.61	80.6
351	0.61	80.7
360	0.64	78.8
369	0.59	77.3
378	0.78	86.2
387	0.79	87.9
396	0.73	85.7
405	0.72	85.0
412	0.72	87.0
423	0.75	87.7
432	0.73	85.8
441	0.71	86.4
450	0.72	85.1
459	0.74	85.8
468	0.74	85.2
477	0.80	89.1
486	0.74	85.8
495	0.70	85.4
504	0.61	78.8
513	0.52	73.2
522	0.66	81.0
531	0.74	86.6
540	0.71	85.3
549	0.74	85.3
558	0.75	84.7
567	0.72	88.0
576	0.70	85.4
585	0.68	80.7
594	0.64	81.4
603	0.68	81.9
612	0.60	78.7
621	0.59	74.9
630	0.66	78.5
639	0.72	80.8
648	0.70	79.7
657	0.64	79.1
666	0.66	79.7
675	0.70	82.2
684	0.68	82.9
693	0.64	80.1
702	0.75	87.6
711	0.75	86.8
720	0.78	87.4
729	0.79	87.9
738	0.77	86.9
747	0.78	86.3
756	0.72	85.1
765	0.62	80.1
Core VNTR01-09GC		
0	0.61	82.6
9	0.59	82.3
18	0.58	81.6
27	0.62	81.0
36	0.66	85.4
45	0.64	83.1
54	0.60	81.8
63	0.63	79.7
72	0.57	75.9
81	0.54	74.0
90	0.45	63.6
99	0.43	60.6
108	0.44	61.9
117	0.50	64.4
126	0.49	64.8
135	0.52	67.0
144	0.50	68.7
153	0.53	70.8
162	0.56	73.7
171	0.53	72.3
180	0.52	71.1
189	0.53	72.1
198	0.54	73.4
207	0.50	67.8
216	0.45	66.1
225	0.44	70.0
234	0.60	79.4

Table 8. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Cores VNTR01-10PC and VNTR01-10GC.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
Core VNTR01-10PC		
0	0.53	85.2
3	0.55	81.5
13	0.43	79.3
23	0.64	78.7
33	0.68	80.3
43	0.57	84.9
53	0.61	84.5
63	0.51	82.1
73	0.51	78.2
83	0.43	75.4
93	0.58	71.5
103	0.38	65.1
113	0.38	69.1
123	0.63	68.9
133	0.50	75.4
143	0.54	75.9
153	0.51	73.4
163	0.48	71.2
173	0.48	72.4
183	0.50	70.5
190	0.49	67.7
200	0.51	71.1
210	0.45	74.4
220	0.51	75.3
230	0.50	74.4
240	0.51	74.2
250	0.51	74.0
260	0.53	78.6
270	0.55	75.7
280	0.51	70.7
290	0.49	68.6
300	0.53	75.0
310	0.58	75.4
320	0.56	70.0
330	0.56	72.8
340	0.55	77.3
350	0.52	78.2
360	0.60	81.1
370	0.64	80.9
380	0.63	79.8
390	0.57	79.2
400	0.54	79.6
407	0.54	77.5
410	0.54	76.8
420	0.56	79.4
430	0.55	76.8
440	0.62	77.3
450	0.60	79.1
460	0.72	86.3
470	0.67	84.0
480	0.62	81.0
490	0.57	77.9
500	0.68	84.3
510	0.70	86.1
520	0.70	85.5
530	0.71	87.0
540	0.68	84.1
550	0.61	81.6
560	0.69	87.2
570	0.68	86.2
580	0.62	83.5
590	0.59	81.0
600	0.53	74.2
610	0.56	77.2
620	0.68	81.8
630	0.67	81.0
640	0.63	78.5
650	0.66	83.6
660	0.65	80.8
670	0.63	81.6
680	0.61	80.7
690	0.55	77.1
700	0.60	77.6
710	0.67	80.2
720	0.63	77.7
730	0.60	78.6
740	0.66	82.0
750	0.61	78.2
760	0.65	80.9
770	0.67	84.9
780	0.67	84.1
790	0.70	83.9
800	0.71	83.2
810	0.65	80.5
820	0.54	74.2
830	0.50	69.2
840	0.52	70.6
850	0.61	80.1
860	0.52	72.5
870	0.57	76.0
880	0.63	75.9
890	0.64	78.0
900	0.59	75.1
910	0.50	66.3
920	0.53	70.8
930	0.62	82.4
Core VNTR01-10GC		
0	0.56	81.6
10	0.54	78.8
20	0.53	79.0
30	0.54	81.5
40	0.64	85.0
50	0.56	80.5
60	0.55	77.0
70	0.53	76.3
80	0.45	65.9
90	0.46	62.5
100	0.50	71.2
110	0.49	72.8
120	0.57	76.7
130	0.60	81.8
140	0.54	76.2
150	0.52	74.6
160	0.48	73.7
170	0.45	65.8
180	0.58	78.0
190	0.51	75.4
200	0.53	75.1
210	0.49	71.2

Table 9. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Core VNTR01-12PC.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
Core VNTR01-12PC			390	0.46	56.0
0	0.39	52.5	396	0.47	55.3
6	0.41	59.0	402	0.54	64.1
12	0.44	61.6	408	0.53	62.7
18	0.42	58.1	414	0.52	63.4
24	0.42	56.2	420	0.52	62.1
30	0.41	51.6	426	0.52	64.9
36	0.42	46.5	432	0.56	66.9
42	0.43	52.3	438	0.59	71.0
48	0.36	41.1	444	0.58	67.1
54	0.32	30.7	450	0.60	68.9
60	0.26	17.4	456	0.54	65.2
66	0.29	29.7	462	0.47	57.6
72	0.31	28.3	468	0.48	60.2
78	0.31	28.5	474	0.60	72.0
84	0.26	24.7	480	0.58	70.9
90	0.27	15.1	486	0.61	72.4
96	0.25	15.0	492	0.63	73.3
102	0.25	15.2	498	0.61	69.7
108	0.25	15.9	504	0.45	60.8
114	0.27	16.9	510	0.67	77.2
120	0.28	19.5	516	0.64	73.8
126	0.28	17.8	522	0.58	70.8
132	0.30	22.8	528	0.54	68.7
138	0.28	18.8	534	0.54	68.6
144	0.27	19.4	540	0.52	65.7
150	0.26	19.1	546	0.56	67.7
156	0.27	20.7	552	0.59	68.7
162	0.29	21.1	558	0.53	65.1
168	0.29	17.8	564	0.59	70.8
174	0.34	36.1	570	0.57	68.3
180	0.38	43.5	576	0.57	68.0
186	0.41	42.4	582	0.51	64.4
192	0.52	57.2	588	0.47	65.8
198	0.51	57.5	594	0.55	70.6
204	0.50	54.8	600	0.66	78.4
210	0.48	51.6	606	0.66	78.0
216	0.49	55.2	612	0.74	82.1
222	0.49	55.7	618	0.79	80.5
228	0.50	53.8	624	0.82	79.3
234	0.46	48.4	630	0.81	80.4
240	0.49	54.3	636	0.88	86.2
246	0.49	54.6	642	0.81	83.2
252	0.48	56.8	648	0.83	83.6
258	0.46	52.7	654	0.89	85.4
264	0.45	47.0	660	0.91	85.6
270	0.37	37.3	666	0.90	86.9
276	0.35	32.3	672	0.88	84.2
282	0.34	31.6	678	0.84	80.6
288	0.33	25.0	684	0.76	77.2
294	0.39	42.4	690	0.82	77.7
300	0.40	46.8	696	0.90	83.1
306	0.50	63.0	702	0.85	81.1
312	0.52	60.0	708	0.79	80.5
318	0.48	58.7	714	0.84	81.3
324	0.51	60.9	720	0.83	81.6
330	0.44	49.6	726	0.78	78.2
336	0.41	49.2	732	0.76	77.0
342	0.44	50.0	738	0.63	65.2
348	0.46	55.4	744	0.60	62.4
354	0.55	61.0	750	0.53	49.7
360	0.65	72.9	756	0.55	55.2
366	0.66	73.9	762	0.62	65.3
372	0.61	70.3	768	0.66	70.8
378	0.52	60.7	774	0.73	72.8
384	0.55	66.0	780	0.75	74.0

Table 10. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Cores VNTR01-13PC and VNTR01-13GC.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
Core VNTR01-13PC			395	0.55	66.9	795	0.74	79.6
0	0.48	69.6	400	0.55	67.8	800	0.76	80.8
5	0.44	59.7	405	0.55	66.8	805	0.76	79.9
10	0.46	62.9	410	0.52	60.2	810	0.73	78.4
15	0.36	41.5	415	0.56	63.5	815	0.73	75.3
20	0.38	44.5	420	0.55	61.0	820	0.67	72.9
25	0.36	43.6	425	0.53	60.4	825	0.68	74.9
30	0.36	44.6	430	0.51	61.4	830	0.67	75.4
35	0.37	44.7	435	0.61	70.9	835	0.70	78.1
40	0.36	41.3	440	0.62	69.3	840	0.73	80.9
45	0.36	42.2	445	0.58	67.2	845	0.74	83.1
50	0.36	40.6	450	0.58	67.9	850	0.73	83.1
55	0.34	36.8	455	0.61	68.7	855	0.70	81.5
60	0.33	37.7	460	0.62	71.6	860	0.70	80.2
65	0.32	31.4	465	0.57	72.1	865	0.70	79.4
70	0.32	32.3	470	0.64	74.9	870	0.73	82.9
75	0.35	39.6	475	0.61	73.9	875	0.77	84.4
80	0.35	37.4	480	0.59	68.0	880	0.73	83.7
85	0.33	31.6	485	0.67	76.9	885	0.71	82.5
90	0.32	30.7	490	0.66	74.3	890	0.76	84.3
95	0.32	31.4	495	0.62	71.3	895	0.78	83.5
100	0.35	38.2	500	0.65	72.7	900	0.77	82.0
105	0.34	36.2	505	0.65	71.1	905	0.78	80.7
110	0.34	35.8	510	0.62	69.2	910	0.80	80.5
115	0.35	37.5	515	0.55	63.2			
120	0.37	39.5	520	0.54	62.4	Core VNTR01-13GC		
125	0.39	49.5	525	0.52	60.8	0	0.43	60.6
130	0.41	50.9	530	0.55	63.5	5	0.45	62.9
135	0.44	48.7	535	0.55	62.2	10	0.51	66.4
140	0.37	53.4	540	0.57	64.9	15	0.53	67.6
145	0.46	56.7	545	0.64	71.9	20	0.49	66.0
150	0.49	62.4	550	0.59	68.2	25	0.49	67.2
155	0.49	58.5	555	0.61	69.4	30	0.49	66.4
160	0.46	54.2	560	0.62	74.1	35	0.49	65.0
165	0.43	51.4	565	0.60	73.1	40	0.48	67.1
170	0.44	46.9	570	0.60	72.2	45	0.48	67.0
175	0.45	47.2	575	0.61	71.7	50	0.45	67.8
180	0.46	51.8	580	0.65	72.7	55	0.45	64.3
185	0.49	56.6	585	0.58	70.9	60	0.50	65.7
190	0.48	54.1	590	0.60	71.2	65	0.50	66.2
195	0.46	50.0	595	0.56	70.5	70	0.46	65.8
200	0.47	53.1	600	0.65	75.4	75	0.48	64.5
205	0.51	59.1	605	0.63	74.1	80	0.43	61.0
210	0.49	57.1	610	0.69	77.0	85	0.48	65.1
215	0.49	55.2	615	0.71	77.4	90	0.46	67.0
220	0.47	51.6	620	0.69	77.0	95	0.45	62.6
225	0.47	51.5	625	0.67	73.7	100	0.51	67.8
230	0.43	45.9	630	0.68	74.5	105	0.41	60.2
235	0.38	36.7	635	0.65	74.3	110	0.43	62.3
240	0.40	40.9	640	0.64	72.7	115	0.46	60.8
245	0.44	51.2	645	0.62	72.6	125	0.41	56.9
250	0.46	54.4	650	0.61	75.0	130	0.42	57.8
255	0.48	55.5	655	0.63	76.6	135	0.40	55.9
260	0.49	57.9	660	0.65	76.5	140	0.42	57.4
265	0.51	62.8	665	0.62	75.1	145	0.41	54.7
270	0.56	67.0	670	0.62	73.7	150	0.43	58.7
275	0.54	66.6	675	0.63	73.6	155	0.45	60.0
280	0.48	60.6	680	0.64	74.9	160	0.44	59.1
285	0.49	60.3	685	0.64	73.4	165	0.47	60.1
290	0.50	60.3	690	0.65	74.4	170	0.48	60.9
295	0.53	62.4	695	0.64	74.0	175	0.48	59.8
300	0.51	58.8	700	0.58	70.4	180	0.51	59.7
305	0.54	60.1	705	0.65	75.6	185	0.46	56.2
310	0.50	54.6	710	0.68	77.4	190	0.46	55.2
315	0.48	56.7	715	0.67	76.1	195	0.46	53.3
320	0.47	57.1	720	0.68	76.7	200	0.41	44.0
325	0.46	55.7	725	0.67	76.3	205	0.41	43.5
330	0.49	57.5	730	0.68	77.5	210	0.38	43.7
335	0.53	62.5	735	0.67	76.6	215	0.37	39.1
340	0.57	68.8	740	0.63	72.2	220	0.39	39.5
345	0.55	72.8	745	0.64	72.1	225	0.37	40.1
350	0.60	71.4	750	0.63	72.0	230	0.39	44.8
355	0.65	73.7	755	0.64	72.4	235	0.36	41.2
360	0.60	70.0	760	0.69	75.5	240	0.40	46.1
365	0.58	69.6	765	0.76	79.6	245	0.39	47.0
370	0.53	64.8	770	0.76	80.9	250	0.37	44.9
375	0.51	61.2	775	0.79	80.0	255	0.36	43.2
380	0.48	56.1	780	0.77	80.4	260	0.41	46.9
385	0.51	62.8	785	0.75	79.6	265	0.36	41.6
390	0.54	64.0	790	0.73	78.5			

Table 11. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Core V28-152.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
Core V28-152			462	0.47	52.3
1	0.37	32.7	471	0.38	34.1
11	0.38	35.9	481	0.36	28.7
21	0.39	37.5	491	0.35	25.3
31	0.41	40.9	501	0.38	33.8
38	0.37	32.8	511	0.42	43.2
51	0.35	25.9	521	0.41	42.6
61	0.32	17.8	528	0.35	27.1
71	0.38	33.7	538	0.43	45.3
81	0.39	37.3	551	0.40	38.3
91	0.39	37.2	558	0.41	41.8
101	0.39	37.0	568	0.37	33.2
111	0.39	36.2	578	0.37	32.5
121	0.38	34.5	591	0.35	27.1
131	0.39	36.5	601	0.38	34.9
141	0.37	32.9	611	0.40	39.9
151	0.36	28.5	622	0.48	55.1
161	0.38	34.4	628	0.54	62.2
171	0.39	38.2	638	0.46	51.8
181	0.41	41.5	648	0.45	50.0
191	0.43	46.1	658	0.45	49.1
201	0.40	40.4	671	0.58	67.4
211	0.42	43.6	681	0.60	69.4
221	0.45	50.1	688	0.54	62.9
231	0.44	47.4	701	0.58	66.9
241	0.44	47.7	708	0.51	58.2
251	0.43	46.0	721	0.48	55.1
261	0.42	43.3	731	0.47	52.8
271	0.37	33.2	741	0.46	50.4
278	0.38	34.3	751	0.41	40.6
291	0.41	40.7	761	0.39	36.8
301	0.38	34.7	771	0.36	30.7
311	0.38	35.5	781	0.38	34.1
321	0.51	58.5	788	0.36	29.4
331	0.35	25.8	801	0.35	27.0
341	0.49	55.4	811	0.33	19.8
351	0.44	46.7	821	0.39	36.8
361	0.41	41.1	828	0.40	39.4
371	0.47	52.7	838	0.41	42.3
381	0.47	52.7	851	0.43	44.9
388	0.45	49.3	858	0.40	39.7
398	0.37	33.4	868	0.45	49.4
411	0.46	51.4	878	0.44	47.9
421	0.49	55.3	888	0.38	34.1
431	0.50	56.7			
438	0.46	51.2			
451	0.48	54.0			

DBD values are calculated from Equation 4.

Table 12. Sample depth, dry-bulk density, and percentage of $CaCO_3$ for Core V28-153.

Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)	Sample depth (cm bsf)	DBD (g/cm^3)	$CaCO_3$ (%)
Core V28-153			491	0.29	4.8
16	0.29	5.8	498	0.30	7.7
23	0.30	10.4	505	0.34	22.8
33	0.30	7.7	512	0.32	17.3
40	0.30	10.9	519	0.36	29.4
47	0.31	11.9	526	0.37	31.6
53	0.30	10.7	533	0.41	41.9
60	0.30	10.7	540	0.40	38.3
67	0.31	12.8	547	0.36	29.5
74	0.31	12.5	554	0.39	37.1
81	0.31	12.1	561	0.36	29.7
88	0.32	16.4	568	0.34	23.1
95	0.31	13.4	575	0.31	12.9
102	0.30	8.1	582	0.30	9.1
109	0.29	6.2	589	0.29	6.9
116	0.29	7.0	596	0.29	4.3
123	0.29	3.5	603	0.29	6.9
130	0.29	6.8	610	0.29	4.7
137	0.30	8.3	617	0.29	4.3
144	0.31	14.2	624	0.29	5.1
151	0.33	22.0	631	0.30	8.5
158	0.33	20.0	641	0.30	10.4
165	0.32	17.7	648	0.30	8.1
172	0.31	13.2	655	0.31	12.6
179	0.30	10.3	662	0.35	26.8
186	0.29	5.7	669	0.36	29.4
193	0.29	7.0	676	0.36	29.9
200	0.29	4.1	683	0.35	27.9
207	0.29	7.5	690	0.33	20.5
214	0.29	6.3	697	0.31	12.2
221	0.30	10.1	704	0.30	10.2
233	0.32	18.3	711	0.30	8.4
240	0.32	15.7	718	0.29	7.5
247	0.34	24.4	725	0.29	7.4
254	0.35	28.0	732	0.29	6.6
261	0.31	14.1	739	0.29	4.4
268	0.31	15.0	757	0.30	8.0
275	0.30	7.6	764	0.29	5.2
284	0.29	7.5	771	0.29	6.1
291	0.30	8.9	778	0.29	7.2
298	0.30	9.9	785	0.30	10.9
305	0.30	8.3	795	0.33	20.8
312	0.30	10.3	802	0.32	18.3
318	0.30	8.2	809	0.34	23.5
325	0.31	12.4	816	0.33	20.9
332	0.30	8.6	823	0.33	19.1
339	0.30	10.8	830	0.31	13.2
346	0.30	9.5	837	0.29	5.6
353	0.30	9.3	844	0.30	8.1
360	0.32	17.4	851	0.29	6.1
367	0.39	36.6	858	0.29	6.2
374	0.31	13.8	865	0.31	14.2
381	0.31	12.5	872	0.39	36.5
388	0.30	8.9	879	0.39	37.5
395	0.30	10.4	886	0.38	34.3
402	0.30	8.3	893	0.34	24.6
409	0.29	5.3	900	0.33	20.6
416	0.30	10.4	907	0.34	23.7
423	0.30	8.1	914	0.34	22.4
430	0.28	3.0	921	0.38	34.7
437	0.29	6.1	928	0.36	28.6
444	0.29	6.2	935	0.36	29.0
451	0.30	8.5	942	0.34	22.3
456	0.29	5.6	949	0.32	16.8
463	0.30	8.1	956	0.34	22.7
470	0.29	5.5			
477	0.29	5.7			
484	0.29	6.8			

DBD values are calculated from Equation 4.