

**U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

**CORES COLLECTED IN LAKE BAIKAL, SIBERIA, BY THE
U.S. GEOLOGICAL SURVEY, 1990 TO 1992:
VISUAL DESCRIPTIONS, PHOTOGRAPHS, X-RADIOGRAPHS,
BULK-DENSITY MEASUREMENTS, AND GRAIN-SIZE ANALYSES**

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ABSTRACT

As part of a project to reconstruct the paleoclimate and paleolimnology of Lake Baikal, and as the first stage of the Baikal Drilling Project, 209 cores were collected at 38 sites from 1990 to 1992. A representative suite of these cores were returned to the United States for analysis. Visual descriptions, photographs, and X-radiographs form the basis for sedimentological interpretations. Bulk density was measured for the core sediments so that masses and fluxes of various components of the sediments could be calculated. Grain-size analyses of the sediments are difficult to interpret directly in terms of paleoenvironments, but are useful in sedimentological interpretations.

INTRODUCTION

From 1990 to 1992, the Lake Baikal Paleoclimate Project collected high-resolution seismic-reflection profiles and a suite of box cores, gravity cores, and piston cores in the lake. Field operations for the project were a joint effort by the U.S. Geological Survey and the Limnological Institute in Irkutsk, Russia. The purpose of this work was to recover a paleoclimatic record for central Asia from the sediments beneath Lake Baikal (Lake Baikal Paleoclimate Project Members, 1992). The combination of its high latitude, highly seasonal climate, and long, continuous sedimentary section make Lake Baikal a premier and unique site for paleoclimatic research. This project was supported by the Baikal Center for Ecological Research (BICER), and in its later stages, by the U.S. National Science Foundation. It is the first phase of the more general Baikal Drilling Project (Kuzmin and others, 1993).

Based on seismic-reflection data, cores were collected in a variety of sedimentary environments (Fig. 1) including: (1) the prodelta area of the Selenga Delta; (2) Academician Ridge, a bathymetrically isolated tectonic high; and (3) the turbidite environments of basin floors and marginal fans. A wide variety of sedimentologic, geochemical, paleontological, and geochronologic analyses were focussed on specific cores from these environments.

The purpose of this report is to make available several types of data that are important for other work involving some of the cores. These data include visual core descriptions, photographs, X-radiographs, grain-size data, and bulk density measurements. The latter, in particular, are necessary to calculate mass accumulation rates and fluxes of various components in the sediments. All cores collected, their location, and other characteristics are listed in Table 1. Not all of the cores that were collected were described, because detailed analyses could not be performed on all cores and because some cores were damaged in transport. All described cores, as well as some undescribed cores, are archived in the Woods Hole Oceanographic Institution's Core Storage Facility.

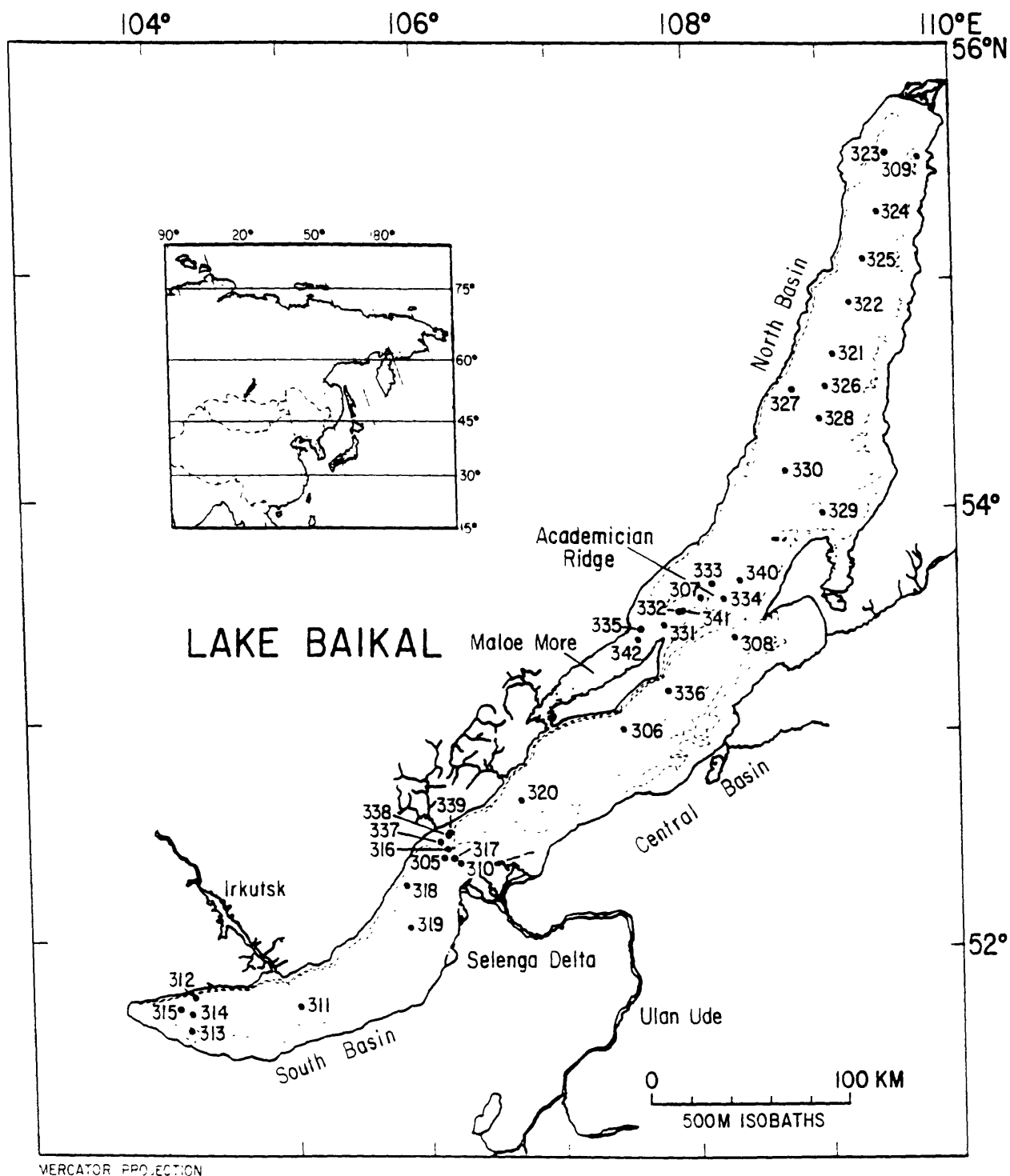


Figure 1. Map of Lake Baikal showing the location of cores listed in Table 1 and geographic features mentioned in the text.

Other analyses, such as radiocarbon, pollen, diatom, magnetic, and chemical analyses were focussed on specific cores. These cores (Fig. 1) include those at sites 305, 316, and 339 (Selenga Delta); 307, 331, 333, and 340 (Academician Ridge); 308 (Central Basin), 321 (North Basin), and 342 (Maloe More). Cores from site 306 (Central Basin), 337 (Selenga Delta), and 341 (Academician Ridge) are also described in Appendix A.

METHODS

Cores for this study were collected in Lake Baikal during three research cruises, one each in the summers of 1990, 1991, and 1992, aboard the R.V. Vereshchagin. High-resolution seismic-reflection profiles were collected at the same time, and were used as an aid in selecting the core sites. A total of 209 cores were collected at 38 sites during the three cruises (Fig. 1, Table 1).

During the 1990 cruise, a large diameter (10 cm) gravity corer ("giant gravity corer") was used to obtain cores as much as 3 m long. For the 1991 cruise, a large diameter (10 cm) piston corer was used to obtain cores having a maximum length of about 5 m. This system included a 1.5 m pilot ("trigger" or "pilot") corer having a diameter of 5.7 cm. At each of the primary 1991 sites, a box core was also collected. Coring operations in 1992 were the same as those in 1991, except that a smaller diameter (5.7 cm) piston corer was used. Maximum lengths of cores collected with this system were about 9 m. During all three cruises, a small diameter (5.7 cm) gravity corer ("Benthos corer") 1.5 m long was used to collect short cores for specialized purposes. At most other sites, duplicate gravity cores (1990) and piston cores (1991 and 1992) were collected to provide both Russian and American researchers with comparable core material. This report concerns the cores that were returned to the United States for analysis by American researchers.

The giant gravity corer used 3-m sections of thick PVC pipe as both a barrel and a liner. The Benthos corer used a similar system, except that the barrel was 1.5 m of thin-walled plastic. The box corer took undisturbed samples 0.5-1.2 m thick; the box cores were subsampled by pushing thin-walled plastic pipe (5.7 cm inner diameter) vertically into the core box after it had been brought on deck. All other corers used metal barrels with thin plastic liners. All cores were cut into 1.5 m sections aboard ship, capped, and sealed with electrical tape.

Certain cores from each cruise were designated as having high priority for analytical work. These and some of the other cores were shipped to the Core Storage Facility at the Woods Hole Oceanographic Institute. The high-priority cores were split longitudinally, described, and X-rayed in the laboratory. Visual descriptions of the cores include both simple graphical logs and text descriptions of the sediments (Appendix A). The graphical logs are divided into two columns, one for lithological properties (sand, silt, mud, diatoms, and unit boundaries), and one for structural properties (bedding, lamination, mottles,

iron-monosulfide streaks, etc.). A key to the graphical logs appears at the beginning of Appendix A. The textual description of each unit gives its dominant characteristics, including texture, color, and bedding.

Cores were photographed in color and black-and-white immediately after being split. Half of the split core was also X-rayed on contact-print negatives, which were later spliced and put together in the mosaics shown with each core description in Appendix A. Because of difficulties in splicing the negatives, the depth scales on the X-ray mosaics may be in error by as much as several centimeters. Subhorizontal cracks caused by biogenic-gas expansion are apparent in some of the longer cores off the Selenga Delta, such as the piston cores at sites 337 and 339.

Water content and bulk density measurements were made on most of the cores at varying sampling intervals (Table 2). Measured volumes of wet sediment were sampled using a beveled syringe, similar to a mini-piston core, and the samples of about 3.2 cm³ were weighed before and after drying for 24 hours at 60 °C. As a check on the results, a few samples were also measured for water content at 88 °C, and their specific gravities were measured using a fully automatic, helium gas-displacement pycnometer (Table 3).

Grain-size measurements were performed on bulk sediment samples of the 1990 gravity cores (Table 4). The sediments were dried and then dispersed in a weak solution of sodium hexametaphosphate. The sand fraction was measured using standard sieving techniques and the silt and clay fractions were measured using a multi-aperture model TA-2 Coulter counter. Mean grain-size values were compared with other climate-related analytical data for cores 305-A5 and 307-A3 by Colman (Lake Baikal Paleoclimate Project members, 1992).

Because of the effect of diatom frustules on grain-size distributions, we experimented with removing the diatoms before analyzing the size distributions. In the U.S. Geological Survey sedimentology lab, the diatoms in samples from core 316-P3 were removed in a strong solution of hot sodium hydroxide. These samples were rinsed and neutralized, and then analyzed in the same manner as the bulk samples. A duplicate of every fourth sample was analyzed as a bulk, untreated sample for comparison. A number of bulk, untreated samples from core 333-P2 were also analyzed.

A set of samples from core 331-P1, both whole sediment and diatom-free sediment, were also run at the Limnological Research Center of the University of Minnesota (Table 5). These samples were analyzed in the same way as the ones described above, with the following exceptions: (1) samples from which diatoms were removed were also treated with hydrogen peroxide and with a combination of hydroxylamine hydrochloride and acetic acid; (2) all samples were treated with an ultrasonic dismembrator during the disaggregation step; and (3) grain size of the silt-and-finer fraction was measured using a Labtec 1000 Particle Size Analyzer.

DISCUSSION

The quality of the box cores and gravity cores was generally excellent. The box cores clearly preserved an undisturbed sediment-water interface. Comparisons of the box cores with the gravity cores at the same sites indicated that no more than the upper few cm of the latter were lost or disturbed. The upper sections of many of the cores settled somewhat during shipment, commonly by a few cm. However, comparisons among the box, gravity, and piston cores at the same sites revealed that the uppermost part of the sedimentary section was commonly missing in the piston cores. A variety of methods were used to correlate among cores at the same site, magnetic susceptibility measurements (Peck and others, 1994) being the most useful. The amount missing from the tops of the piston cores was commonly anywhere between 0 and 200 cm, but in at least one case it was more than 200 cm. The failure to sample the uppermost sediments was probably caused by late triggering of the piston. The late trigger, in turn, was probably caused by penetration of the trigger corer past the sediment-water interface, by binding of the trigger mechanism, or by a combination of the two. In addition, a few of the piston cores contained gaps or disturbed zones, probably caused by suction on the base of the core (for example, core 321-P2, Appendix A). In some of the longer piston cores in the Selenga Delta area, exsolution of gas (presumably biogenic methane) after the cores were brought to the surface caused expansion cracks and some disturbance (for example, core 339-P2, Appendix A).

Coring sites on Academician Ridge and the slope of the Selenga Delta were chosen to minimize chances of turbidite deposition and to maximize the potential for continuous hemipelagic sedimentation. The core descriptions, photographs, and X-radiographs show that this effort was largely successful. Cores from these areas are mostly weakly laminated, relatively uniform clayey silts and silty clays, distinguished mostly by changes in diatom content and by slight variations in color and texture. Slight grain size and textural variations in some cases may represent turbidity events or even distal turbidite deposition, especially near the Selenga Delta. In contrast, cores from sites on the basin floors, such as 306 in the Central Basin and 321 in the North Basin contain abundant turbidites and major variations in grain size (Nelson and others, 1994). These cores typically contain sequences of graded sand beds overlain by finer-grained muds and mixed diatomaceous layers, intercalated with normal hemipelagic diatomaceous muds. These rapid compositional changes are especially well represented in the X-radiographs of the cores.

Bulk density of the sediments is a key measurement for paleoenvironmental studies because it is needed to calculate the masses or fluxes of components whose proportion in the sediments has been measured. Comparison of the two methods of determining bulk density showed excellent agreement (Tables 2 and 3). The only systematic difference between the two

sets of measurements was in water content, which was consistently slightly less in the samples analyzed by pycnometer. However, these samples were taken two years after the others, so a slightly lower water content is reasonable.

Bulk density is clearly a function of two variables: depth and diatom content. To a lesser extent, bulk density is also affected by grain-size, especially where turbidite sands occur in the deep-basin cores. The change in bulk density with depth due to compaction is most apparent in the upper 1-2 m of the cores (for example, Fig. 2). The rate of change decreases with depth, but bulk density continues to increase measurably with depth to a depth of at least 100 m, the depth of the 1993 Baikal Drilling Project drill core (A. Gvozdkov, written commun., 1993). Diatoms, which are less dense than mineral grains, decrease the bulk density of the sediments in which they are abundant (for example, Fig. 2). Below the upper few meters of the cores bulk density closely tracks both biogenic silica and sediment-magnetic properties (Peck and others, 1994).

The grain size of the sediments is difficult to interpret directly in paleoenvironmental terms, because of problems related to both depositional environments and to the presence of diatoms. In some specific depositional environments in other areas, grain size shows a direct link with environmental variables such as wind or current speed (Halfman and Johnson, 1984; Haskell and Johnson, 1993). In other locations, grain size has been shown to reflect lake level and the relative distance from shore (Colman and others, 1994). However, our cores from Lake Baikal are located in sedimentary environments where environmental signals are likely to be confounded by other factors. For example, changing climate may affect the grain size of sediments deposited at the toe of the Selenga Delta, but other causes, such as tectonic uplift or changes in the course of the river are equally possible.

Variations in the amounts and assemblages of diatoms in Lake Baikal sediments also makes grain-size distributions difficult to interpret, because diatom frustules are mostly in the silt-size range. In bulk samples, it is difficult to determine if a change in grain size is due to a change in the amount of diatoms, the size distribution of the diatoms, the size distribution of the terrigenous sediments, or a combination of these factors. Removal of the diatoms by hot alkaline leaches is laborious and it affects the grain size of the remaining sample, because the leach also dissolves fine-grained terrigenous grains, especially clays and poorly crystalline materials. The overall effect is to make the mean grain size coarser. A different approach is to examine the size distribution of the silt fraction only and to measure the amount of diatoms by other means. From the limited amount of data available (Fig. 3), no strong relation exists between the change in grain size of the silt fraction during leaching and the amount of diatoms that were originally present.

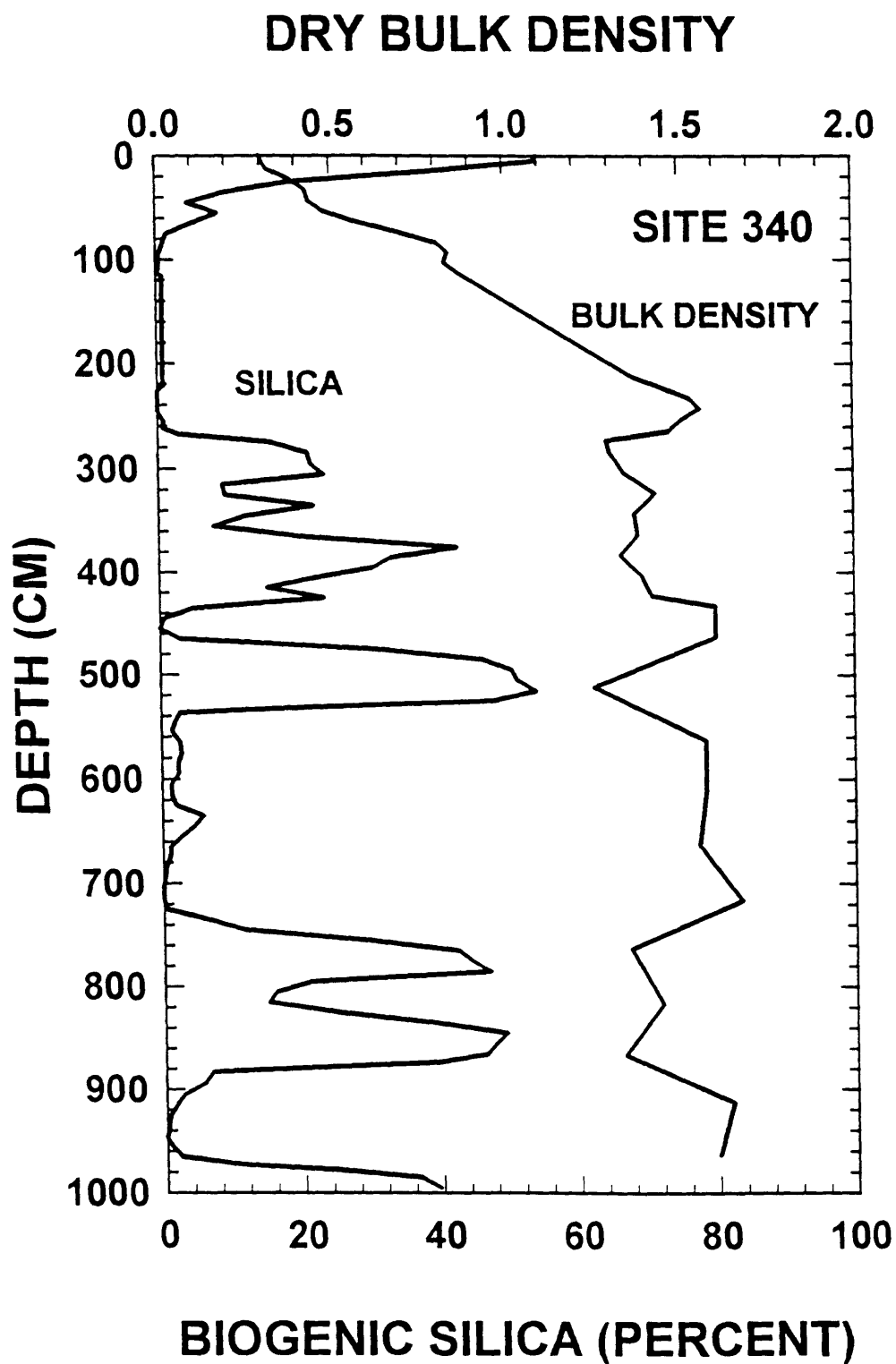


Figure 2. Profile of dry bulk density and biogenic silica with depth for cores 340-T1 (top) and 340-P1 (bottom). Biogenic silica data is from Carter and Colman (in press).

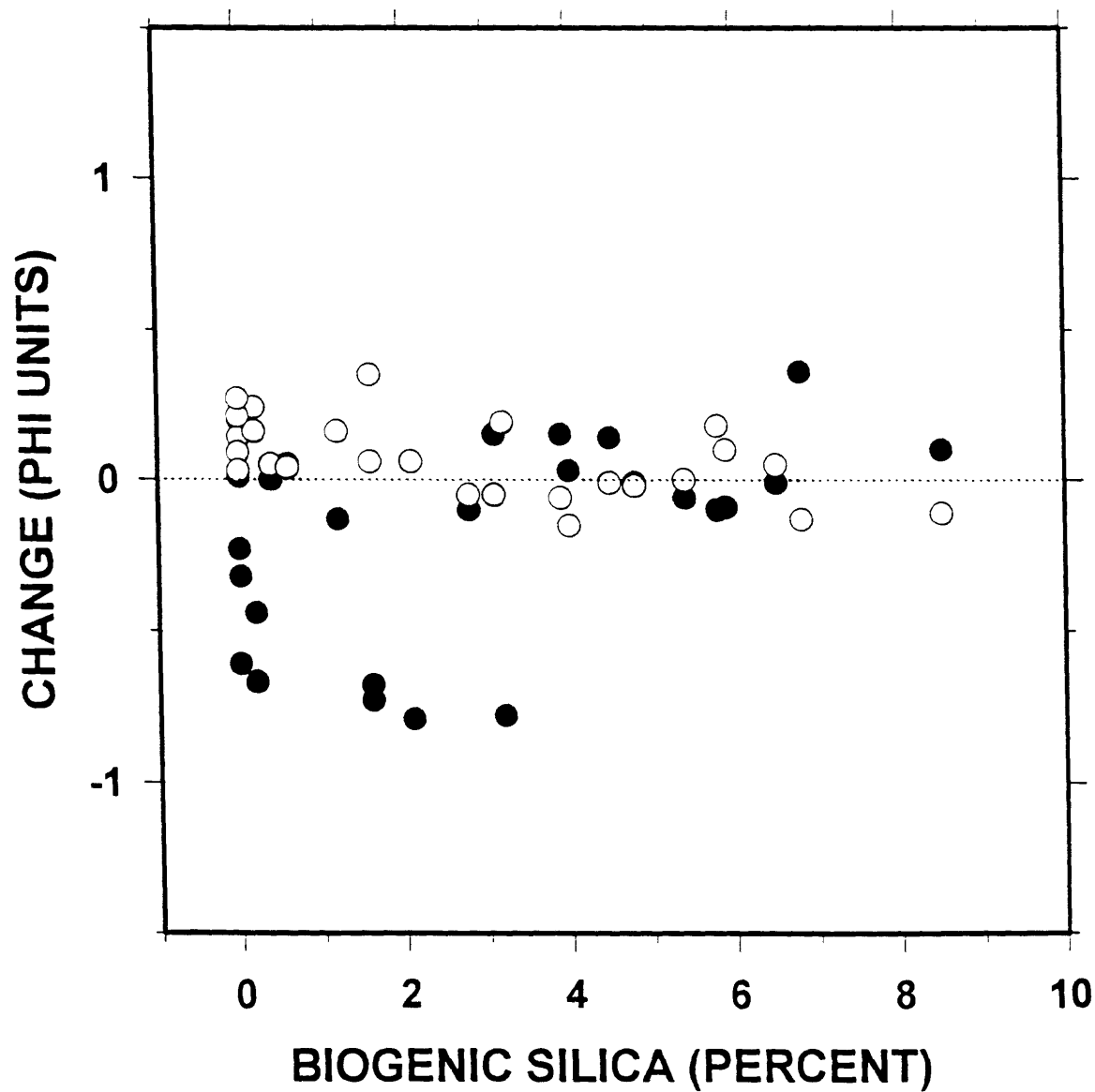


Figure 3. Plot of the changes in grain-size distribution before and after treatment to remove diatoms. Change is plotted as the value for the original sediment minus the value for the treated sediment, in phi units. Solid circles are for the mean and open circles are for standard deviation.

In summary, the cores described here form the basis for the first stage of the Baikal Drilling Project and for reconstructing past environmental conditions in Lake Baikal over the past tens to hundreds of thousands of years. The cores collected for this effort are of generally high quality and sufficient to meet the needs for which they were intended, although they are not without their problems. The core descriptions, photographs, and X-radiographs form the basis for sedimentological interpretations. The bulk density measurements are critical for calculating masses and fluxes of various components of the sediments whose proportion has been measured. Grain-size analyses of the sediments are useful in sedimentological interpretations, but are difficult to interpret directly in terms of paleoenvironments.

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Table 1.--CORE LOCATIONS AND ATTRIBUTES

Site	Core ¹	Cruise	Date collected	Latitude (°N)	Longitude (°E)	Water Depth (m) ²	Length (cm)	Comment ³
305	G1	VRSH90-1	24-Jul-90	52.4003	106.1072	280		
305	G2	VRSH90-1	24-Jul-90	52.3923	106.1193	280	0	No recovery
305	G3	VRSH90-1	24-Jul-90	52.4005	106.122	280	0	No recovery
305	G4	VRSH90-1	24-Jul-90	52.4013	106.1205	285		
305	G5	VRSH90-1	24-Jul-90	52.3932	106.1208	280	263	
305	G6	VRSH90-1	24-Jul-90	52.4007	106.121	280		
306	G1	VRSH90-1	26-Jul-90	52.9746	107.458	1650		
306	G2	VRSH90-1	26-Jul-90	52.9926	107.4893	1650		
306	G3	VRSH90-1	26-Jul-90	53.0	107.5	1650		
306	G4	VRSH90-1	26-Jul-90	52.9925	107.491	1650		
306	B1	VRSH90-1	26-Jul-90	52.9912	107.4878	1650	0	No recovery
306	R1	VRSH90-1	26-Jul-90	52.9898	107.484	1650		Grab sample
307	B1	VRSH90-1	27-Jul-90	53.5869	108.0775	320		Position estimated
307	G1	VRSH90-1	27-Jul-90	53.5878	108.0661	320		Position estimated
307	G2	VRSH90-1	27-Jul-90	53.5833	108.0647	320		Position estimated
307	G3	VRSH90-1	27-Jul-90	53.5908	108.0661	335	268	
307	G4	VRSH90-1	27-Jul-90	53.5894	108.0661	325		
308	G1	VRSH90-1	27-Jul-90	53.4144	108.3156	1670		
308	G2	VRSH90-1	27-Jul-90	53.4161	108.3156	1685		
308	G3	VRSH90-1	27-Jul-90	53.4153	108.3175	1670	187	
308	G4	VRSH90-1	27-Jul-90	53.4153	108.3175	1670		Position estimated
309	G1	VRSH90-1	28-Jul-90	55.5158	109.7686	445	0	No recovery
309	G2	VRSH90-1	28-Jul-90	55.5158	109.7686	445	0	No recovery
309	G3	VRSH90-1	28-Jul-90	55.5158	109.7686	445	0	No recovery
309	G4	VRSH90-1	28-Jul-90	55.5158	109.7686	445	0	No recovery
309	N1	VRSH90-1	28-Jul-90	55.5158	109.7686	445		Callender
309	N2	VRSH90-1	28-Jul-90	55.5158	109.7686	445		Callender
309	N3	VRSH90-1	28-Jul-90	55.5158	109.7686	445		Callender
309	G5	VRSH90-1	28-Jul-90	55.5178	109.7719	445	0	No recovery
309	N4	VRSH90-1	28-Jul-90	55.5178	109.7719	445		
310	G1	VRSH90-1	30-Jul-90	52.3769	106.2311	100		
310	G2	VRSH90-1	30-Jul-90	52.3781	106.2386	90		
310	G3	VRSH90-1	30-Jul-90	52.3778	106.2444	90		
310	B1	VRSH90-1	30-Jul-90	52.3808	106.2553	75		
310	R1	VRSH90-1	30-Jul-90	52.38	106.2381	105		Grab sample
310	G4	VRSH90-1	30-Jul-90	52.3808	106.2406	100		

Table 1. (Continued)

Site	Core ¹	Cruise	Date collected	Latitude (°N)	Longitude (°E)	Water Depth (m) ²	Length (cm)	Comment ³
311	G1	VRSH90-1	31-Jul-90	51.7161	105.0036	1470	0	No recovery
311	G2	VRSH90-1	31-Jul-90	51.7108	105.015	1470	0	No recovery
311	G3	VRSH90-1	31-Jul-90	51.71	105.0053	1470	0	No recovery
311	G4	VRSH90-1	31-Jul-90	51.7078	105.0033	1470	0	No recovery
311	N1	VRSH90-1	31-Jul-90	51.71	105.005	1470	0	Position estimated;no recovery
311	N2	VRSH90-1	31-Jul-90	51.71	105.005	1470	0	Position estimated;no recovery
312	N1	VRSH91-1	13-Jul-91	51.7445	104.2177	1390	61.5	
313	B1	VRSH91-1	13-Jul-91	51.5902	104.1812	1300		
314	N1	VRSH91-1	14-Jul-91	51.6715	104.1968	1310	0	Almost no recovery
315	N1	VRSH91-1	15-Jul-91	51.6918	104.1072	1360	12	
316	N1	VRSH91-1	16-Jul-91	52.4443	106.1453	300	125	
316	PA	VRSH91-1	16-Jul-91	52.4423	106.1425	300	0	No recovery
316	PB	VRSH91-1	16-Jul-91	52.4417	106.1413	300	0	No recovery
316	PC	VRSH91-1	16-Jul-91	52.4475	106.1493	300	0	No recovery
316	P1	VRSH91-1	17-Jul-91	52.44	106.1478	300	491	Half LI, half USGS
316	T1	VRSH91-1	17-Jul-91	52.44	106.1478	300		LI
316	P2	VRSH91-1	17-Jul-91	52.4435	106.156	300	73	Half LI, half USGS
316	P3	VRSH91-1	17-Jul-91	52.4398	106.1505	300	508	USGS
316	T3	VRSH91-1	17-Jul-91	52.4398	106.1505	300	113	USGS
316	B1	VRSH91-1	20-Jul-91	52.4423	106.1502	300	38	
317	TA	VRSH91-1	17-Jul-91	52.404	106.188	330	0	No recovery
317	B1	VRSH91-1	17-Jul-91	52.3912	106.1903	240	39.5	
317	P1	VRSH91-1	20-Jul-91	52.3995	106.1907	250	507	USGS
317	T1	VRSH91-1	20-Jul-91	52.3995	106.1907	250	90	USGS
317	P2	VRSH91-1	20-Jul-91	52.3923	106.1882	250	566	LI
317	T2	VRSH91-1	20-Jul-91	52.3923	106.1882	250	90	LI
318	N1	VRSH91-1	18-Jul-91	52.2748	105.8275	1020	220	
318	B1	VRSH91-1	18-Jul-91	52.279	105.8262	970	0	No recovery
318	P1	VRSH91-1	18-Jul-91	52.2745	105.8282	970	315	LI
318	T1	VRSH91-1	18-Jul-91	52.2745	105.8282	970	98	LI
318	P2	VRSH91-1	18-Jul-91	52.2733	105.8343	970	401	USGS
318	T2	VRSH91-1	18-Jul-91	52.2733	105.8343	970	90	USGS
318	B2	VRSH91-1	18-Jul-91	52.2735	105.8262	970	39	
319	N1	VRSH91-1	19-Jul-91	52.0552	105.855	40	84	
319	B1	VRSH91-1	19-Jul-91	52.086	105.8513	165	26.5	
319	P1	VRSH91-1	19-Jul-91	52.085	105.8613	150	454	LI

Table 1. (Continued)

Site	Core ¹	Cruise	Date collected	Latitude (°N)	Longitude (°E)	Water Depth (m) ²	Length (cm)	Comment ³
319	T1	VRSH91-1	19-Jul-91	52.085	105.8613	150	62	LI
319	P2	VRSH91-1	19-Jul-91	52.075	105.8568	125	473	USGS
319	T2	VRSH91-1	19-Jul-91	52.075	105.8568	125	125	USGS
320	NA	VRSH91-1	21-Jul-91	52.6678	106.7055	1100	0	No recovery
320	B1	VRSH91-1	21-Jul-91	52.6647	106.7035	1100	28	
320	P1	VRSH91-1	21-Jul-91	52.6672	106.704	1100	239	LI
320	T1	VRSH91-1	21-Jul-91	52.6672	106.704	1100	90	LI
320	P2	VRSH91-1	21-Jul-91	52.6698	106.7046	1100	403	USGS
320	T2	VRSH91-1	21-Jul-91	52.6698	106.7046	1100	72	USGS
320	N1	VRSH91-1	21-Jul-91	52.6695	106.7033	1100	39	
321	N1	VRSH91-1	24-Jul-91	54.6735	109.0973	960	99	
321	B1	VRSH91-1	24-Jul-91	54.6753	109.0948	960	27.5	
321	P1	VRSH91-1	24-Jul-91	54.669	109.0883	960	446	LI
321	T1	VRSH91-1	24-Jul-91	54.669	109.0883	960	102	LI
321	P2	VRSH91-1	24-Jul-91	54.6692	109.089	960	380	USGS
321	T2	VRSH91-1	24-Jul-91	54.6692	109.089	960	100	USGS
321	N2	VRSH91-1	24-Jul-91	54.6706	109.0917	960	0	Small recovery; discarded
321	N3	VRSH91-1	24-Jul-91	54.6682	109.093	960		
321	N4	VRSH91-1	24-Jul-91	54.6668	109.0935	960	74	
322	B1	VRSH91-1	24-Jul-91	54.898	109.2253	950	23.5	
322	G1	VRSH91-1	24-Jul-91	54.8913	109.2207	950	137	LI
322	P1	VRSH91-1	24-Jul-91	54.8943	109.2233	950	282	USGS
322	T1	VRSH91-1	24-Jul-91	54.8943	109.2233	950	71	USGS
322	P2	VRSH91-1	24-Jul-91	54.897	109.2193	950	31	LI
322	T2	VRSH91-1	24-Jul-91	54.897	109.2193	950	57	LI
322	N1	VRSH91-1	24-Jul-91	54.8973	109.2243	950	0	No recovery
322	N2	VRSH91-1	24-Jul-91	54.894	109.2235	950	30	
323	N1	VRSH91-1	25-Jul-91	55.5352	109.5218	710	0	No recovery
323	N2	VRSH91-1	25-Jul-91	55.5353	109.5237	710	86	
323	BA	VRSH91-1	25-Jul-91	55.5357	109.5265	710	0	No recovery
323	P1	VRSH91-1	25-Jul-91	55.5347	109.5213	710	461	LI
323	T1	VRSH91-1	25-Jul-91	55.5347	109.5213	710	77	LI
323	P2	VRSH91-1	25-Jul-91	55.5345	109.5218	710	317	USGS
323	T2	VRSH91-1	25-Jul-91	55.5345	109.5218	710	0	No recovery
323	B1	VRSH91-1	25-Jul-91	53.5322	109.5205	710	22	
PD1	N1	VRSH91-1	26-Jul-91	55.5173	109.8007	360	0	Discarded

Table 1. (Continued)

Site	Core ¹	Cruise	Date collected	Latitude (°N)	Longitude (°E)	Water Depth (m) ²	Length (cm)	Comment ³
PD1	N2	VRSH91-1	26-Jul-91	55.5172	109.8007	360		Callender
324	NA	VRSH91-1	26-Jul-91	55.2808	109.441	870	0	Discarded
324	B1	VRSH91-1	26-Jul-91	55.2795	109.4395	870	36	
324	N1	VRSH91-1	26-Jul-91	55.2782	106.438	870	18	Discarded
324	P1	VRSH91-1	26-Jul-91	55.283	109.4397	870	258	LI
324	T1	VRSH91-1	26-Jul-91	55.283	109.4397	870	87	LI
324	P2	VRSH91-1	26-Jul-91	55.2833	109.4437	870	343	USGS
324	T2	VRSH91-1	26-Jul-91	55.2833	109.4437	870	63	USGS
325	N1	VRSH91-1	27-Jul-91	55.0785	109.3297	880	60	Karabanov
325	B1	VRSH91-1	27-Jul-91	55.0782	109.3288	880	26.5	
325	P1	VRSH91-1	27-Jul-91	55.0813	109.3322	880	315	LI
325	T1	VRSH91-1	27-Jul-91	55.0813	109.3322	880	84	LI
325	P2	VRSH91-1	27-Jul-91	55.0795	109.334	880	173	USGS
325	T2	VRSH91-1	27-Jul-91	55.0795	109.334	880		USGS
326	B1	VRSH91-1	28-Jul-91	54.5252	109.0338	950	42	
326	N1	VRSH91-1	28-Jul-91	54.5248	109.0337	950		Karabanov
326	P1	VRSH91-1	28-Jul-91	54.5247	109.0365	950		Small recovery
326	T1	VRSH91-1	28-Jul-91	54.5247	109.0365	950	0	No recovery
326	P2	VRSH91-1	28-Jul-91	54.526	109.0343	950	40	LI
326	T2	VRSH91-1	28-Jul-91	54.526	109.0343	950	42	LI
326	P3	VRSH91-1	28-Jul-91	54.528	109.0322	950	211	USGS
326	T3	VRSH91-1	28-Jul-91	54.528	109.0322	950	125	USGS
327	N1	VRSH91-1	28-Jul-91	54.5082	108.7743	950		
327	P1	VRSH91-1	28-Jul-91	54.5108	108.7807	950	468	Half LI, half USGS
327	T1	VRSH91-1	28-Jul-91	54.5108	108.7807	950	91	
328	B1	VRSH91-1	29-Jul-91	54.3805	109.9777	930	40.5	
328	NA	VRSH91-1	29-Jul-91	54.3817	108.9768	930	0	No recovery
328	N1	VRSH91-1	29-Jul-91	54.3817	108.9767	930		Karabanov
328	P1	VRSH91-1	29-Jul-91	54.3835	108.9773	930	149	USGS
328	T1	VRSH91-1	29-Jul-91	54.3835	108.9773	930	112	USGS
328	P2	VRSH91-1	29-Jul-91	54.3843	108.9777	930	156	LI
328	T2	VRSH91-1	29-Jul-91	54.3843	108.9777	930	51	LI
329	B1	VRSH91-1	31-Jul-91	53.9707	108.9908	490	38	
329	N1	VRSH91-1	31-Jul-91	53.9703	109.992	490	45	Karabanov
329	N2	VRSH91-1	31-Jul-91	53.9703	108.992	490	82	Karabanov
329	P1	VRSH91-1	31-Jul-91	53.9698	108.996	490	201	LI

Table 1. (Continued)

Site	Core ¹	Cruise	Date collected	Latitude (°N)	Longitude (°E)	Water Depth (m) ²	Length (cm)	Comment ³
329	T1	VRSH91-1	31-Jul-91	53.9698	108.996	490		LI
329	P2	VRSH91-1	31-Jul-91	53.9673	108.9922	490	427	USGS
329	T2	VRSH91-1	31-Jul-91	53.9673	108.9922	490	0	USGS; no recovery
329	P3	VRSH91-1	31-Jul-91	53.9705	108.9927	490	218	LI
329	T3	VRSH91-1	31-Jul-91	53.9705	108.9927	490	0	LI; some Fe-Mn crust
330	N1	VRSH91-1	31-Jul-91	54.153	108.7158	950	65	
331	N1	VRSH91-1	01-Aug-91	53.4747	107.7873	360	102	
331	B1	VRSH91-1	01-Aug-91	53.4747	107.7863	360	29	
331	P1	VRSH91-1	01-Aug-91	53.4688	107.7897	360	268	USGS
331	T1	VRSH91-1	01-Aug-91	53.4688	107.7897	360	105	USGS
331	P2	VRSH91-1	01-Aug-91	53.473	107.7895	360	434	LI
331	T2	VRSH91-1	01-Aug-91	53.473	107.7895	360	118	LI
332	N1	VRSH91-1	01-Aug-91	53.527	107.91	330	107	
333	B1	VRSH91-1	02-Aug-91	53.6527	108.1605	390	31	
333	N1	VRSH91-1	02-Aug-91	53.652	108.159	390		
333	N2	VRSH91-1	02-Aug-91	53.6555	108.1592	390		
333	P1	VRSH91-1	02-Aug-91	53.6548	108.1582	390	306	LI
333	T1	VRSH91-1	02-Aug-91	53.6548	108.1582	390	104	LI
333	P2	VRSH91-1	02-Aug-91	53.653	108.1558	390	429	USGS
333	T2	VRSH91-1	02-Aug-91	53.653	108.1558	390	120	USGS
334	N1	VRSH91-1	03-Aug-91	53.584	108.2477	350	85	
334	BA	VRSH91-1	03-Aug-91	53.585	108.2463	350	0	No recovery
334	B1	VRSH91-1	03-Aug-91	53.5865	108.2447	350		
334	P1	VRSH91-1	03-Aug-91	53.5857	108.2478	350	372	LI
334	T1	VRSH91-1	03-Aug-91	53.5857	108.2478	350	123	LI
334	P2	VRSH91-1	03-Aug-91	53.587	108.2472	350	192	USGS
334	T2	VRSH91-1	03-Aug-91	53.587	108.2472	350	109	USGS
335	B1	VRSH91-1	04-Aug-91	53.4457	107.614	270	34	
335	N1	VRSH91-1	04-Aug-91	53.4452	107.6093	270	57	Karabanov
335	P1	VRSH91-1	04-Aug-91	53.4465	107.6183	270	229	LI
335	T1	VRSH91-1	04-Aug-91	53.4465	107.6183	270	59	LI
335	P2	VRSH91-1	04-Aug-91	53.4468	107.6185	270	341	USGS
335	T2	VRSH91-1	04-Aug-91	53.4468	107.6185	270	57	USGS
336	N1	VRSH91-1	04-Aug-91	53.1685	107.8192	1730	72	Karabanov
336	N2	VRSH91-1	04-Aug-91	53.167	107.8162	1730		
337	B1	VERE92-2	22-Jul-92	52.47317	106.1147	400	41.5	subcores LI, USGS

Table 1. (Continued)

Site	Core ¹	Cruise	Date collected	Latitude (°N)	Longitude (°E)	Water Depth (m) ²	Length (cm)	Comment ³
337	B2	VERE92-2	31-Jul-92	52.45583	106.1068	400	30	LI
337	P1	VERE92-2	22-Jul-92	52.47117	106.0982	400	508	LI
337	T1	VERE92-2	22-Jul-92	52.47117	106.0982	400	79.5	LI
337	P2	VERE92-2	23-Jul-92	52.45833	106.1103	370	816	Half LI, half USGS
337	T2	VERE92-2	23-Jul-92	52.45833	106.1103	370	70	Half LI, half USGS
337	P3	VERE92-2	23-Jul-92	52.47017	106.1232	390	927	LI
337	T3	VERE92-2	23-Jul-92	52.47017	106.1232	390	33.5	LI
338	B1	VERE92-2	25-Jul-92	52.5055	106.1535	375	38	Subcores LI, USGS
338	P1	VERE92-2	25-Jul-92	52.50433	106.152	375	457	LI
338	T1	VERE92-2	25-Jul-92	52.50433	106.152	375	75	LI
339	B1	VERE92-2	25-Jul-92	52.51417	106.166	375	38	Subcores LI, USGS
339	G1	VERE92-2	25-Jul-92					LI
339	P1	VERE92-2	25-Jul-92	52.51767	106.1663	365	721	LI
339	T1	VERE92-2	25-Jul-92	52.51767	106.1663	365	41	LI
339	P2	VERE92-2	25-Jul-92	52.516	106.1663	375	840	USGS
339	T2	VERE92-2	25-Jul-92	52.516	106.1663	375	92	USGS
340	B1	VERE92-2	28-Jul-92	53.66817	108.36	280	32	Subcores LI, USGS
340	G1	VERE92-2	28-Jul-92	53.66667	108.3582	280	46	LI
340	P1	VERE92-2	28-Jul-92	53.66717	108.361	280	831.5	USGS
340	T1	VERE92-2	28-Jul-92	53.667	108.361	280	118	USGS
340	P2	VERE92-2	28-Jul-92	53.66633	108.3565	280	718.5	LI
340	T2	VERE92-2	28-Jul-92	52.64967	108.3565	280	125	LI
341	P1	VERE92-2	30-Jul-92	53.53067	107.9262	263	216	Half LI, half USGS
341	T1	VERE92-2	30-Jul-92	53.53083	107.9262	264	25.5	Half LI, half USGS
342	B1	VERE92-2	30-Jul-92	53.39933	107.5892	240	29	Subcores LI, USGS
342	P1	VERE92-2	30-Jul-92	53.39933	107.5882	240	888.5	USGS
342	T1	VERE92-2	30-Jul-92	53.39933	107.5882	240	60	USGS
342	P2	VERE92-2	30-Jul-92	53.39817	107.589	240	909	LI
342	T2	VERE92-2	30-Jul-92	53.39817	107.589	240	66	LI

¹Core type: B, box; G, giant gravity; N, Benthos gravity; P, piston; T, trigger core for piston core.

²Where entry is blank, it was not recorded. Depths for VERE90-1 cores were estimated from 3.5 kHz seismic profiles assuming a sound velocity in water of 1,500 m/s.

³Ownership of the cores as follows: LI, Limnological Institute in Irkutsk; USGS, U.S. Geological Survey, Woods Hole; others, individual investigators' names.

Table 2. Bulk Density Results, Syringe Method

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
305-A5	3.00	63.00	1.25	0.46	2.21
305-A5	15.00	61.20	1.32	0.51	2.71
305-A5	25.00	62.34	1.31	0.50	2.74
305-A5	35.00	58.14	1.36	0.57	2.69
305-A5	45.00	63.81	1.29	0.47	2.69
305-A5	55.00	58.72	1.33	0.55	2.55
305-A5	65.00	57.47	1.36	0.58	2.68
305-A5	75.00	60.16	1.34	0.53	2.74
305-A5	85.00	56.08	1.37	0.60	2.58
305-A5	95.00	55.29	1.37	0.61	2.56
305-A5	105.00	54.02	1.42	0.65	2.84
305-A5	115.00	50.51	1.46	0.72	2.76
305-A5	125.00	49.98	1.43	0.72	2.53
305-A5	135.00	51.82	1.46	0.70	2.89
305-A5	145.00	54.35	1.44	0.66	2.99
305-A5	155.00	55.02	1.44	0.65	3.11
305-A5	165.00	55.24	1.38	0.62	2.60
305-A5	175.00	53.60	1.41	0.65	2.66
305-A5	185.00	46.44	1.52	0.81	2.77
305-A5	195.00	46.40	1.51	0.81	2.73
305-A5	205.00	43.64	1.57	0.88	2.78
305-A5	217.00	40.68	1.55	0.92	2.49
305-A5	225.00	44.11	1.52	0.85	2.56
305-A5	235.00	40.91	1.56	0.92	2.53
305-A5	245.00	41.22	1.56	0.91	2.55
305-A5	255.00	40.87	1.60	0.95	2.73
306-A4	3.00	56.44	1.36	0.59	2.58
306-A4	8.00	61.75	1.29	0.49	2.46
306-A4	15.00	67.54	1.23	0.40	2.37
306-A4	25.00	76.77	1.16	0.27	2.37
306-A4	32.00	51.51	1.43	0.70	2.66
306-A4	45.00	51.86	1.44	0.69	2.74
306-A4	55.00	41.08	1.53	0.90	2.41
306-A4	65.00	52.24	1.41	0.67	2.56
306-A4	75.00	44.54	1.51	0.84	2.55
306-A4	85.00	52.96	1.40	0.66	2.56

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
306-A4	90.00	55.13	1.46	0.66	3.39
307-A3	4.00	74.87	1.18	0.30	2.51
307-A3	15.00	73.84	1.18	0.31	2.45
307-A3	25.00	65.52	1.30	0.45	3.03
307-A3	35.00	53.72	1.41	0.65	2.72
307-A3	45.00	48.01	1.51	0.78	2.82
307-A3	55.00	47.58	1.60	0.84	3.49
307-A3	65.00	44.98	1.57	0.86	2.92
307-A3	75.00	42.80	1.52	0.87	2.51
307-A3	83.00	45.03	1.53	0.84	2.71
307-A3	95.00	46.39	1.50	0.81	2.67
307-A3	105.00	43.43	1.59	0.90	2.88
307-A3	115.00	46.47	1.48	0.79	2.55
307-A3	125.00	38.95	1.59	0.97	2.55
307-A3	135.00	45.96	1.50	0.81	2.60
307-A3	145.00	48.68	1.52	0.78	2.96
307-A3	155.00	45.03	1.57	0.87	2.97
307-A3	165.00	52.22	1.49	0.71	3.24
307-A3	175.00	46.24	1.56	0.84	3.00
307-A3	185.00	44.86	1.53	0.84	2.68
307-A3	195.00	42.99	1.63	0.93	3.09
307-A3	205.00	40.27	1.63	0.97	2.84
307-A3	215.00	46.44	1.48	0.79	2.52
307-A3	225.00	44.96	1.58	0.87	3.02
307-A3	235.00	44.77	1.54	0.85	2.72
307-A3	245.00	45.99	1.53	0.83	2.79
307-A3	258.00	48.12	1.47	0.76	2.63
308-A3	3.00	68.31	1.21	0.38	2.16
308-A3	15.00	59.34	1.28	0.52	2.19
308-A3	25.00	65.46	1.26	0.44	2.50
308-A3	35.00	70.12	1.26	0.38	3.14
308-A3	45.00	69.54	1.22	0.37	2.43
308-A3	55.00	68.18	1.24	0.39	2.52
308-A3	63.00	47.86	1.48	0.77	2.67
308-A3	75.00	52.20	1.42	0.68	2.61
308-A3	85.00	66.58	1.25	0.42	2.51

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
308-A3	97.00	54.97	1.39	0.63	2.69
308-A3	107.00	53.14	1.39	0.65	2.51
308-A3	115.00	55.02	1.37	0.61	2.48
308-A3	125.00	67.57	1.23	0.40	2.36
308-A3	135.00	67.38	1.23	0.40	2.34
308-A3	145.00	71.82	1.21	0.34	2.54
308-A3	155.00	62.82	1.28	0.48	2.46
308-A3	165.00	67.76	1.22	0.39	2.31
308-A3	175.00	63.21	1.28	0.47	2.44
308-A3	185.00	54.71	1.40	0.63	2.67
316-T3	5	66.89	1.26	0.42	2.61
316-T3	10	62.09	1.30	0.49	2.56
316-T3	15	64.56	1.26	0.45	2.43
316-T3	25	62.04	1.28	0.48	2.33
316-T3	35	59.66	1.34	0.54	2.68
316-T3	45	61.56	1.30	0.50	2.53
316-T3	55	59.51	1.33	0.54	2.56
316-T3	70	53.85	1.39	0.64	2.57
316-T3	85	52.87	1.41	0.66	2.58
316-T3	90	61.51	1.30	0.50	2.49
316-T3	100	45.61	1.52	0.83	2.70
316-P3	5	60.44	1.30	0.51	2.40
316-P3	10	55.57	1.36	0.60	2.45
316-P3	15	44.20	1.51	0.84	2.55
316-P3	25	41.65	1.55	0.90	2.55
316-P3	35	41.11	1.57	0.93	2.63
316-P3	45	39.30	1.58	0.96	2.51
316-P3	56	44.95	1.50	0.83	2.53
316-P3	65	44.23	1.50	0.83	2.46
316-P3	75	48.24	1.44	0.75	2.47
316-P3	95	47.88	1.44	0.75	2.43
316-P3	115	47.95	1.46	0.76	2.55
316-P3	135	48.34	1.47	0.76	2.61
316-P3	155	45.35	1.49	0.81	2.51
316-P3	175	46.46	1.48	0.79	2.51
316-P3	195	48.41	1.45	0.75	2.49

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
316-P3	215	44.29	1.50	0.84	2.48
316-P3	240	38.77	1.60	0.98	2.59
316-P3	265	39.14	1.62	0.99	2.71
316-P3	295	37.66	1.64	1.02	2.66
316-P3	325	38.32	1.61	0.99	2.59
316-P3	355	38.03	1.62	1.01	2.64
316-P3	400	42.62	1.53	0.88	2.53
316-P3	450	39.25	1.60	0.97	2.61
316-P3	495	44.33	1.51	0.84	2.55
321-T2	5	77.80	1.14	0.25	2.30
321-T2	10	77.89	1.11	0.25	1.84
321-T2	15	79.39	1.13	0.23	2.24
321-T2	24	74.66	1.17	0.30	2.28
321-T2	37	74.36	1.19	0.30	2.57
321-T2	45	74.74	1.19	0.30	2.62
321-T2	55	65.18	1.29	0.45	2.84
321-T2	65	80.56	1.13	0.22	2.44
321-T2	75	80.93	1.12	0.21	2.37
321-T2	85	74.51	1.18	0.30	2.44
321-T2	95	58.84	1.35	0.55	2.66
321-P2	5	79.49	1.12	0.23	2.06
321-P2	10	76.03	1.15	0.28	2.17
321-P2	15	59.77	1.33	0.54	2.61
321-P2	25	58.39	1.33	0.56	2.52
321-P2	35	57.05	1.35	0.58	2.51
321-P2	45	60.53	1.30	0.51	2.41
321-P2	55	29.53	1.76	1.24	2.59
321-P2	70	72.79	1.18	0.32	2.21
321-P2	85	56.65	1.36	0.59	2.55
321-P2	100	68.10	1.25	0.40	2.64
321-P2	115	45.65	1.51	0.82	2.66
321-P2	130	62.07	1.30	0.49	2.60
321-P2	144	47.51	1.51	0.80	2.84
321-P2	160	40.14	1.60	0.96	2.69
321-P2	175	34.20	1.72	1.13	2.74
321-P2	200	22.32	1.86	1.44	2.47

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
321-P2	225	37.24	1.65	1.03	2.68
321-P2	250	23.54	1.72	1.32	2.22
321-P2	275	44.64	1.53	0.85	2.67
321-P2	300	38.88	1.61	0.99	2.65
321-P2	330	14.99	1.87	1.59	2.21
321-P2	360	42.83	1.56	0.89	2.69
331-T1	5	75.97	1.14	0.27	2.10
331-T1	10	71.08	1.18	0.34	2.09
331-T1	15	66.57	1.23	0.41	2.27
331-T1	25	51.11	1.44	0.70	2.67
331-T1	35	38.15	1.63	1.01	2.66
331-T1	45	40.56	1.56	0.93	2.54
331-T1	54	43.95	1.54	0.86	2.65
331-T1	65	34.51	1.70	1.11	2.68
331-T1	75	43.15	1.56	0.89	2.70
331-T1	85	40.44	1.61	0.96	2.74
331-T1	95	40.35	1.59	0.95	2.65
331-P1	4	68.77	1.20	0.38	2.17
331-P1	10	42.74	1.55	0.89	2.63
331-P1	16	44.35	1.51	0.84	2.55
331-P1	25	42.90	1.54	0.88	2.59
331-P1	36	37.38	1.60	1.00	2.50
331-P1	45	42.49	1.55	0.89	2.63
331-P1	55	41.95	1.55	0.90	2.56
331-P1	65	47.47	1.45	0.76	2.45
331-P1	75	71.08	1.19	0.34	2.23
331-P1	85	71.75	1.18	0.33	2.12
331-P1	100	58.04	1.32	0.56	2.40
331-P1	115	69.83	1.20	0.36	2.22
331-P1	131	57.87	1.33	0.56	2.41
331-P1	145	65.10	1.25	0.44	2.34
331-P1	160	15.91	0.85	0.71	0.82
331-P1	165	40.83	1.37	0.81	1.85
331-P1	175	75.02	1.42	0.35	5.40
331-P1	190	81.99	1.78	0.32	0.70
331-P1	215	64.83	1.01	0.36	1.04

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
331-P1	245	37.07	1.63	1.02	2.57
333-T2	5	71.54	1.20	0.34	2.48
333-T2	10	72.13	1.18	0.33	2.15
333-T2	15	75.35	1.15	0.28	2.13
333-T2	25	57.07	1.37	0.59	2.68
333-T2	35	48.01	1.46	0.76	2.53
333-T2	45	46.92	1.48	0.78	2.55
333-T2	55	45.87	1.54	0.83	2.85
333-T2	80	40.23	1.59	0.95	2.65
333-T2	110	45.22	1.51	0.83	2.60
333-P2	5	77.56	1.15	0.26	2.38
333-P2	10	77.94	1.14	0.25	2.20
333-P2	15	73.08	1.17	0.32	2.23
333-P2	25	69.66	1.22	0.37	2.46
333-P2	35	67.67	1.24	0.40	2.51
333-P2	45	62.39	1.30	0.49	2.56
333-P2	55	58.83	1.35	0.56	2.73
333-P2	65	47.92	1.47	0.77	2.61
333-P2	75	47.75	1.48	0.77	2.63
333-P2	90	44.37	1.54	0.85	2.68
333-P2	110	43.28	1.54	0.87	2.60
333-P2	130	46.27	1.51	0.81	2.70
333-P2	155	44.82	1.51	0.84	2.60
333-P2	180	48.45	1.46	0.75	2.58
333-P2	210	44.65	1.50	0.83	2.50
333-P2	240	43.47	1.54	0.87	2.65
333-P2	270	43.32	1.55	0.88	2.67
333-P2	300	44.90	1.53	0.84	2.67
333-P2	350	57.72	1.34	0.57	2.50
333-P2	400	52.97	1.40	0.66	2.54
339-P2	3	73.99	1.16	0.30	2.12
339-P2	13	58.58	1.42	0.59	3.49
339-P2	23	48.09	1.48	0.77	2.65
339-P2	33	44.64	1.53	0.85	2.66
339-P2	43	38.50	1.62	1.00	2.65
339-P2	53	44.86	1.48	0.82	2.44

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
339-P2	63	42.25	1.56	0.90	2.67
339-P2	71	41.80	1.56	0.91	2.60
339-P2	83	43.74	1.51	0.85	2.51
339-P2	93	40.37	1.57	0.94	2.57
339-P2	103	44.23	1.54	0.86	2.68
339-P2	121	36.97	1.66	1.05	2.72
339-P2	143	33.12	1.69	1.13	2.57
339-P2	163	35.90	1.65	1.06	2.60
339-P2	183	39.44	1.62	0.98	2.72
339-P2	202	30.94	1.76	1.22	2.67
339-P2	213	45.57	1.49	0.81	2.52
339-P2	233	44.05	1.53	0.86	2.62
339-P2	253	46.98	1.44	0.76	2.35
339-P2	303	49.41	1.45	0.73	2.56
339-P2	353	51.36	1.42	0.69	2.56
339-P2	403	36.05	1.67	1.07	2.69
339-P2	453	40.31	1.60	0.96	2.70
339-P2	503	40.26	1.60	0.96	2.69
339-P2	553	28.30	1.84	1.32	2.75
339-P2	603	37.53	1.65	1.03	2.70
339-P2	653	38.58	1.63	1.00	2.68
339-P2	703	37.47	1.66	1.04	2.74
339-P2	753	47.75	1.53	0.80	2.94
339-P2	803	41.11	1.58	0.93	2.65
339-T2	3	69.45	1.20	0.37	2.15
339-T2	13	67.36	1.21	0.40	2.18
339-T2	23	68.67	1.21	0.38	2.22
339-T2	33	69.45	1.19	0.36	2.13
339-T2	43	71.16	1.19	0.34	2.26
339-T2	53	68.38	1.23	0.39	2.39
339-T2	63	66.77	1.24	0.41	2.38
339-T2	73	67.93	1.21	0.39	2.22
339-T2	86	64.20	1.25	0.45	2.29
340-P1	3	57.71	1.37	0.58	2.75
340-P1	13	51.72	1.45	0.70	2.84
340-P1	23	44.40	1.53	0.85	2.67

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
340-P1	33	43.55	1.56	0.88	2.76
340-P1	43	45.59	1.51	0.82	2.66
340-P1	54	48.45	1.47	0.76	2.65
340-P1	63	61.15	1.29	0.50	2.40
340-P1	73	61.18	1.30	0.51	2.48
340-P1	83	57.57	1.32	0.56	2.35
340-P1	93	58.60	1.34	0.56	2.59
340-P1	113	50.36	1.43	0.71	2.57
340-P1	133	55.32	1.37	0.61	2.56
340-P1	153	53.88	1.38	0.64	2.50
340-P1	173	63.41	1.33	0.49	3.08
340-P1	193	57.01	1.39	0.60	2.86
340-P1	213	54.73	1.42	0.64	2.88
340-P1	223	38.65	1.60	0.98	2.58
340-P1	253	40.20	1.60	0.96	2.69
340-P1	302	66.66	1.25	0.42	2.55
340-P1	353	39.77	1.57	0.95	2.53
340-P1	401	40.93	1.57	0.93	2.60
340-P1	453	41.43	1.55	0.91	2.53
340-P1	506	37.22	1.67	1.05	2.76
340-P1	553	61.25	1.35	0.52	2.98
340-P1	606	50.94	1.44	0.71	2.65
340-P1	656	59.08	1.33	0.55	2.56
340-P1	703	37.46	1.64	1.02	2.64
340-P1	753	41.99	1.60	0.93	2.80
340-P1	803	57.64	1.39	0.59	3.00
340-T1	3	52.00	1.19	0.57	1.51
340-T1	13	73.09	1.18	0.32	2.32
340-T1	23	68.19	1.21	0.39	2.20
340-T1	33	65.63	1.24	0.43	2.34
340-T1	43	64.66	1.25	0.44	2.30
340-T1	53	62.67	1.28	0.48	2.42
340-T1	63	57.99	1.35	0.57	2.58
340-T1	73	51.29	1.41	0.69	2.51
340-T1	84	45.29	1.49	0.81	2.50
340-T1	93	45.20	1.53	0.84	2.69

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
340-T1	103	45.40	1.51	0.83	2.64
340-T1	113	43.76	1.55	0.87	2.69
342-P1	3	52.42	1.43	0.68	2.74
342-P1	13	60.90	1.31	0.51	2.57
342-P1	23	51.19	1.42	0.70	2.56
342-P1	33	52.00	1.42	0.68	2.58
342-P1	43	47.99	1.47	0.76	2.60
342-P1	53	54.24	1.39	0.64	2.57
342-P1	63	56.10	1.35	0.59	2.44
342-P1	73	55.50	1.36	0.61	2.49
342-P1	83	55.47	1.36	0.60	2.45
342-P1	93	51.14	1.43	0.70	2.61
342-P1	103	53.91	1.40	0.64	2.61
342-P1	118	57.00	1.34	0.58	2.43
342-P1	143	47.10	1.46	0.77	2.47
342-P1	163	54.13	1.37	0.63	2.41
342-P1	183	42.02	1.56	0.90	2.61
342-P1	203	45.38	1.50	0.82	2.57
342-P1	223	44.03	1.53	0.86	2.62
342-P1	243	38.97	1.63	0.99	2.72
342-P1	263	38.95	1.64	1.00	2.76
342-P1	313	50.38	1.43	0.71	2.56
342-P1	363	70.92	1.23	0.36	2.87
342-P1	413	76.22	1.16	0.28	2.42
342-P1	463	77.32	1.17	0.27	2.83
342-P1	513	54.71	1.38	0.62	2.53
342-P1	563	60.78	1.31	0.51	2.54
342-P1	613	55.54	1.35	0.60	2.40
342-P1	663	65.21	1.28	0.45	2.70
342-P1	713	59.85	1.34	0.54	2.72
342-P1	763	56.10	1.39	0.61	2.80
342-P1	813	39.41	1.62	0.98	2.73
342-P1	863	70.73	1.21	0.35	2.42
342-T1	5	76.24	1.13	0.27	1.89
342-T1	13	75.87	1.12	0.27	1.77
342-T1	23	75.50	1.14	0.28	2.03

Table 2. (Continued)

Core	Depth (cm)	Water content ¹ (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
342-T1	33	78.96	1.13	0.24	2.21
342-T1	43	75.99	1.15	0.28	2.20
342-T1	53	72.89	1.17	0.32	2.09

¹Percent of total sample weight.

Table 3. Bulk Density Results, Pycnometer Method¹

Core	Depth (cm)	Water content ² (percent)	Wet bulk density (g/cm ³)	Dry bulk density (g/cm ³)	Grain speci- fic gravity (g/cm ³)
333-P2	5	72.9	1.20	0.32	2.56
333-P2	45	59.5	1.34	0.52	2.70
333-P2	155	42.5	1.57	0.90	2.71
333-P2	270	41.5	1.59	0.93	2.75
333-P2	350	55.8	1.38	0.61	2.68
333-P2	400	52.7	1.42	0.67	2.67

¹Results are averages of two oven-dried and two air-dried subsamples.

²Percent of total sample weight.

Table 4. Grain-size measurements made at U.S. Geoplogical Survey, Woods Hole
[Asterisk indicates samples treated to remove diatoms.]

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
305-A5	0	5	7.36	1.82	-0.07	-0.89	100.00	94.15	76.30	57.32	44.63	30.33	9.30	1.08	0.67	0.24	0.09	0.00	0.00
305-A5	5	10	7.62	1.71	-0.18	-0.27	100.00	92.90	75.45	54.92	36.90	19.82	5.45	1.52	1.13	0.20	0.02	0.00	0.00
305-A5	10	15	7.45	1.64	-0.06	-0.62	100.00	94.78	79.11	60.45	41.45	22.50	5.47	0.78	0.59	0.11	0.00	0.00	0.00
305-A5	15	20	7.09	1.54	0.07	-0.19	100.00	96.40	86.64	71.84	51.51	26.51	5.61	1.15	0.78	0.14	0.00	0.00	0.00
305-A5	20	25	7.19	1.67	0.04	-0.36	100.00	94.56	82.18	67.84	51.30	26.23	6.46	1.54	1.05	0.18	0.03	0.00	0.00
305-A5	25	30	7.19	1.65	0.03	-0.54	100.00	95.70	82.56	66.72	50.09	27.13	6.65	1.14	0.87	0.13	0.00	0.00	0.00
305-A5	30	35	8.09	1.54	-0.34	0.31	100.00	92.19	66.84	41.82	25.47	10.88	2.21	1.00	0.69	0.14	0.00	0.00	0.00
305-A5	35	40	8.07	1.64	-0.36	0.16	100.00	90.92	65.91	40.88	26.12	13.25	3.73	1.23	0.75	0.15	0.00	0.00	0.00
305-A5	40	45	7.46	1.93	-0.44	1.75	100.00	92.84	76.21	56.87	40.63	21.55	6.64	3.46	2.76	1.35	0.98	0.91	0.00
305-A5	45	50	7.58	1.81	-0.37	0.52	100.00	93.88	76.55	53.51	33.74	19.23	8.09	3.54	2.41	0.63	0.13	0.03	0.00
305-A5	50	55	7.31	1.75	-0.29	0.47	100.00	95.94	82.32	62.34	41.25	21.88	8.49	3.87	2.44	0.73	0.17	0.00	0.00
305-A5	55	60	7.62	1.85	-0.41	0.74	100.00	93.80	73.62	51.38	35.38	18.53	6.93	4.26	2.66	1.06	0.29	0.00	0.00
305-A5	60	65	7.20	1.75	-0.27	0.48	100.00	96.32	84.46	65.23	43.91	22.96	9.51	4.07	2.41	0.90	0.16	0.00	0.00
305-A5	65	70	7.23	1.81	-0.25	0.29	100.00	95.29	81.81	63.51	45.15	23.72	8.48	4.30	3.42	0.87	0.00	0.00	0.00
305-A5	70	75	7.31	1.90	-0.38	0.79	100.00	95.17	80.01	59.80	41.17	22.57	9.01	4.82	3.99	1.59	0.50	0.00	0.00
305-A5	75	80	7.30	1.59	-0.31	1.35	100.00	96.64	85.88	66.88	42.19	16.98	5.29	2.98	2.35	0.74	0.13	0.00	0.00
305-A5	80	85	7.49	1.81	-0.35	0.78	100.00	93.73	78.03	57.40	38.49	18.05	7.54	3.79	2.80	0.94	0.20	0.06	0.00
305-A5	85	90	7.35	1.74	-0.32	0.84	100.00	95.34	82.85	62.13	40.17	20.43	7.11	3.43	2.85	1.01	0.14	0.00	0.00
305-A5	90	95	7.36	1.73	-0.29	1.04	100.00	94.34	81.81	64.09	41.81	18.94	5.95	3.31	2.64	1.18	0.23	0.00	0.00
305-A5	95	100	7.40	2.13	-0.41	0.42	100.00	92.02	73.34	54.95	41.12	21.75	10.27	7.62	6.41	2.31	0.33	0.00	0.00
305-A5	100	105	7.86	1.93	-0.58	1.77	100.00	89.60	68.58	45.63	29.07	14.26	5.94	4.44	3.98	1.64	0.50	0.14	0.00
305-A5	105	110	7.40	1.90	-0.45	1.21	100.00	94.19	79.64	58.74	37.84	19.41	8.11	5.06	4.57	1.82	0.41	0.07	0.00
305-A5	110	115	7.88	1.91	-0.61	1.46	100.00	92.02	68.51	42.36	25.27	14.93	8.32	4.55	4.08	1.55	0.00	0.00	0.00
305-A5	116	120	7.85	1.66	-0.49	1.89	100.00	92.94	74.38	49.07	27.63	11.83	3.83	2.51	2.13	0.86	0.22	0.00	0.00
305-A5	120	125	7.61	1.51	-0.29	1.41	100.00	95.24	80.93	59.89	33.87	11.92	3.59	1.46	1.25	0.54	0.17	0.00	0.00
305-A5	125	130	7.72	1.52	-0.26	0.91	100.00	94.22	78.15	56.55	31.58	11.62	3.56	1.15	0.95	0.39	0.11	0.00	0.00
305-A5	130	135	8.20	1.52	-0.48	1.58	100.00	90.90	66.11	39.17	20.41	7.90	2.24	1.52	1.18	0.25	0.00	0.00	0.00
305-A5	135	140	8.26	1.49	-0.46	1.34	100.00	90.21	64.44	37.97	19.12	7.05	2.62	1.19	0.84	0.15	0.01	0.00	0.00
305-A5	140	145	8.04	1.57	-0.53	2.01	100.00	92.46	70.69	44.00	22.11	8.50	3.50	2.40	1.70	0.39	0.05	0.00	0.00
305-A5	145	150	8.14	1.70	-0.59	2.00	100.00	89.96	64.86	38.43	22.05	10.88	4.23	2.61	1.88	0.50	0.21	0.08	0.00
305-A5	150	155	8.25	1.61	-0.65	2.64	100.00	89.78	63.84	35.66	18.84	8.21	3.49	2.51	1.49	0.52	0.22	0.01	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
305-A5	155	160	8.28	1.56	-0.59	2.18	100.00	89.84	62.97	36.01	19.18	7.55	2.65	2.10	1.60	0.25	0.06	0.00	0.00
305-A5	160	165	8.10	1.66	-0.53	1.52	100.00	90.79	66.39	41.13	23.39	9.45	4.18	2.77	2.09	0.27	0.00	0.00	0.00
305-A5	165	170	8.00	1.77	-0.56	1.57	100.00	90.05	68.74	43.37	24.34	10.59	5.16	4.36	3.26	0.33	0.00	0.00	0.00
305-A5	170	175	7.32	1.64	-0.27	0.56	100.00	96.36	84.33	64.36	40.91	18.40	6.83	3.72	2.51	0.15	0.00	0.00	0.00
305-A5	175	180	7.56	1.94	-0.43	0.32	100.00	93.76	74.85	51.36	33.84	18.28	11.14	6.24	4.34	0.33	0.00	0.00	0.00
305-A5	180	185	8.11	1.52	-0.52	1.64	100.00	92.67	70.12	40.61	20.02	8.75	3.60	2.26	1.18	0.11	0.00	0.00	0.00
305-A5	185	190	8.21	1.61	-0.71	2.82	100.00	91.57	66.20	35.75	17.19	8.57	4.22	3.39	2.02	0.32	0.12	0.00	0.00
305-A5	190	195	8.27	1.56	-0.75	3.62	100.00	91.55	65.13	33.88	15.80	7.96	3.70	2.52	1.71	0.33	0.19	0.13	0.00
305-A5	195	200	8.00	1.58	-0.64	2.66	100.00	94.95	72.52	42.23	20.85	10.33	4.51	2.63	1.74	0.29	0.17	0.15	0.00
305-A5	200	205	8.09	1.68	-0.68	2.32	100.00	92.85	67.47	38.17	20.04	10.12	5.34	3.70	2.57	0.32	0.14	0.00	0.00
305-A5	205	210	8.32	1.53	-0.71	2.96	100.00	90.98	64.16	32.57	14.94	7.43	3.63	2.56	1.48	0.20	0.05	0.00	0.00
305-A5	210	215	8.01	1.49	-0.42	1.13	100.00	94.34	71.46	45.68	22.22	9.85	3.25	1.63	0.83	0.11	0.05	0.00	0.00
305-A5	215	220	8.52	1.31	-0.65	2.57	100.00	92.09	59.03	27.83	10.73	5.25	2.34	0.74	0.40	0.04	0.00	0.00	0.00
305-A5	220	225	8.34	1.39	-0.57	2.60	100.00	91.17	65.44	35.78	13.11	5.30	2.33	1.52	0.84	0.10	0.00	0.00	0.00
305-A5	225	230	7.91	1.58	-0.48	1.53	100.00	93.77	74.04	47.82	23.49	10.28	5.02	2.66	1.45	0.25	0.08	0.00	0.00
305-A5	230	235	8.24	1.67	-0.66	2.29	100.00	90.04	63.02	35.14	18.07	9.37	5.98	2.64	1.45	0.48	0.24	0.00	0.00
305-A5	235	240	8.24	1.40	-0.47	1.76	100.00	92.31	67.74	39.36	16.28	6.35	2.18	1.29	0.58	0.11	0.03	0.00	0.00
305-A5	240	245	8.73	1.22	-0.76	4.58	100.00	89.11	52.79	21.19	7.73	3.20	1.12	0.82	0.39	0.10	0.06	0.00	0.00
305-A5	245	250	8.67	1.51	-0.95	5.16	100.00	85.87	51.66	22.68	10.05	4.84	3.25	2.98	1.34	0.37	0.13	0.00	0.00
305-A5	250	255	8.58	1.58	-0.81	3.36	100.00	86.00	52.82	24.32	13.36	7.45	3.85	2.24	1.23	0.34	0.11	0.00	0.00
305-A5	255	260	8.66	1.51	-0.99	5.58	100.00	87.49	50.55	22.49	9.74	4.97	4.07	2.41	1.38	0.43	0.17	0.04	0.00
305-A5	260	265	8.70	1.58	-0.97	5.09	100.00	84.05	49.07	21.38	11.22	5.74	3.65	2.77	1.64	0.52	0.25	0.00	0.00
305-A5	265	268	8.17	1.87	-0.95	5.19	100.00	89.34	63.46	37.03	17.60	9.15	5.06	4.00	2.97	1.99	1.58	0.74	0.00
307-A3	7	11	7.55	1.57	-0.21	0.48	100.00	95.15	80.43	59.36	37.09	16.00	3.40	2.23	0.97	0.32	0.08	0.00	0.00
307-A3	11	15	7.97	1.68	-0.47	1.50	100.00	91.75	69.26	44.69	27.56	11.27	3.97	2.72	1.23	0.65	0.35	0.00	0.00
307-A3	15	20	7.59	1.51	-0.20	1.07	100.00	94.98	80.55	59.66	36.87	13.43	3.04	1.18	0.57	0.33	0.21	0.14	0.00
307-A3	20	25	7.68	1.49	-0.24	1.06	100.00	94.67	79.18	57.91	33.70	10.68	2.64	1.54	0.94	0.39	0.11	0.00	0.00
307-A3	25	30	8.22	1.58	-0.49	1.78	100.00	89.43	63.50	38.78	22.92	8.22	2.14	1.65	0.98	0.50	0.16	0.05	0.00
307-A3	30	35	7.89	1.61	-0.43	1.49	100.00	92.94	72.68	49.01	27.65	11.34	3.47	2.15	1.31	0.66	0.20	0.00	0.00
307-A3	35	40	8.15	1.89	-0.60	1.44	100.00	87.23	59.06	37.62	24.56	12.31	5.85	4.74	2.63	0.91	0.19	0.00	0.00
307-A3	40	45	8.39	1.91	-0.82	2.91	100.00	84.29	53.36	29.81	17.48	9.88	6.49	5.16	3.13	1.32	0.38	0.08	0.00
307-A3	45	50	8.32	1.98	-0.76	2.64	100.00	83.62	52.23	32.24	21.16	12.65	5.95	4.49	2.80	1.25	0.65	0.49	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
307-A3	50	55	8.67	1.65	-0.80	3.13	100.00	81.92	45.99	24.25	15.44	6.98	3.50	2.44	1.41	0.48	0.12	0.00	0.00
307-A3	55	60	8.88	1.83	-1.11	5.28	100.00	76.24	35.65	16.43	11.83	7.76	5.37	4.57	2.87	1.07	0.33	0.11	0.00
307-A3	60	65	8.15	1.94	-0.58	1.34	100.00	85.51	57.58	38.28	24.80	14.19	5.96	4.22	2.61	0.97	0.31	0.10	0.00
307-A3	65	70	7.60	1.98	-0.24	-0.58	100.00	90.78	69.17	50.51	37.03	25.46	12.60	2.43	1.41	0.47	0.09	0.04	0.00
307-A3	70	75	7.98	1.92	-0.47	0.80	100.00	87.51	62.68	43.67	29.72	14.72	6.33	4.00	2.36	1.04	0.22	0.00	0.00
307-A3	75	80	7.48	2.06	-0.37	0.40	100.00	90.82	72.88	54.81	38.53	22.06	9.79	6.57	4.21	1.55	0.43	0.08	0.00
307-A3	80	85	7.90	2.12	-0.54	0.81	100.00	87.45	61.97	42.03	29.10	17.29	9.47	6.88	4.26	1.62	0.38	0.04	0.00
307-A3	85	90	8.48	2.07	-0.88	2.76	100.00	81.46	46.13	24.63	17.43	10.94	7.88	7.17	4.35	1.46	0.48	0.07	0.00
307-A3	90	95	7.99	2.09	-0.65	1.60	100.00	87.89	61.52	39.24	25.24	14.84	8.81	6.93	4.19	1.66	0.60	0.27	0.00
307-A3	95	100	7.60	1.86	-0.43	1.01	100.00	92.86	75.08	54.78	32.95	16.86	7.79	5.03	2.87	0.97	0.28	0.10	0.00
307-A3	100	105	7.85	2.16	-0.56	0.84	100.00	88.02	63.24	41.64	28.93	17.31	10.57	8.34	4.59	1.77	0.43	0.13	0.00
307-A3	105	110	7.70	1.80	-0.42	0.81	100.00	93.13	73.90	51.88	30.91	16.44	6.73	4.37	2.20	0.73	0.14	0.00	0.00
307-A3	110	115	7.72	1.94	-0.52	1.02	100.00	92.52	71.35	48.50	29.44	16.26	8.44	6.58	3.63	1.13	0.26	0.00	0.00
307-A3	115	120	8.23	1.87	-0.70	2.09	100.00	87.41	58.37	33.59	20.98	11.13	6.36	5.22	2.42	0.88	0.26	0.08	0.00
307-A3	120	125	8.06	2.31	-0.74	1.58	100.00	85.93	56.38	32.61	21.78	15.43	11.10	10.20	6.87	2.85	0.87	0.22	0.00
307-A3	125	130	7.81	2.14	-0.55	0.78	100.00	89.13	64.96	43.27	28.67	18.08	10.53	8.13	4.51	1.67	0.43	0.06	0.00
307-A3	130	135	7.73	2.19	-0.52	0.50	100.00	89.80	65.25	43.15	30.43	20.29	13.01	7.63	4.72	1.99	0.56	0.00	0.00
307-A3	135	140	8.03	1.90	-0.59	1.51	100.00	88.68	63.74	40.94	23.84	13.75	7.07	4.92	2.62	1.01	0.31	0.08	0.00
307-A3	140	145	8.11	1.85	-0.61	1.56	100.00	88.64	62.54	37.39	23.34	12.83	6.38	4.27	2.20	0.89	0.27	0.00	0.00
307-A3	145	150	7.62	1.78	-0.34	0.42	100.00	93.46	75.40	54.12	32.91	18.24	7.36	3.67	1.72	0.56	0.11	0.00	0.00
307-A3	150	155	7.38	2.35	-0.45	0.21	100.01	90.52	70.94	52.16	36.28	24.09	15.43	11.85	6.15	3.63	1.31	0.00	0.00
307-A3	155	160	8.18	1.94	-0.65	1.66	100.00	86.55	58.12	34.54	23.21	13.54	7.11	4.90	2.56	1.01	0.33	0.14	0.00
307-A3	160	165	7.77	1.65	-0.35	0.79	100.00	93.03	75.10	52.61	29.59	13.66	4.98	2.65	1.15	0.41	0.08	0.02	0.00
307-A3	165	170	8.30	1.84	-0.69	2.15	100.00	86.26	56.17	32.08	21.54	11.39	5.64	3.82	1.95	0.88	0.35	0.12	0.00
307-A3	170	175	8.31	1.91	-0.69	1.82	100.00	84.56	54.73	31.81	20.84	11.41	7.05	5.27	2.17	0.73	0.24	0.10	0.00
307-A3	175	180	7.71	1.84	-0.43	0.82	100.00	92.11	73.06	51.21	30.84	16.70	6.77	4.93	2.41	0.81	0.19	0.00	0.00
307-A3	180	185	8.35	1.91	-0.69	1.80	100.00	84.24	52.31	31.65	21.05	11.57	6.25	4.74	2.44	0.93	0.20	0.00	0.00
307-A3	185	190	7.53	1.85	-0.34	0.48	100.00	93.07	75.99	56.87	35.47	19.51	8.33	4.63	2.32	0.91	0.20	0.00	0.00
307-A3	190	195	8.25	1.96	-0.69	1.68	100.00	86.38	55.62	31.55	20.41	13.65	8.41	5.58	2.43	0.80	0.30	0.11	0.00
307-A3	195	200	8.24	2.02	-0.69	1.52	100.00	85.01	55.29	30.67	21.90	13.21	8.78	6.39	3.38	1.03	0.22	0.00	0.00
307-A3	200	205	8.22	1.98	-0.69	1.98	100.00	84.78	56.96	34.18	21.68	13.67	7.42	4.87	2.45	1.31	0.66	0.18	0.00
307-A3	205	210	8.11	2.11	-0.72	1.88	100.00	86.91	57.22	34.17	22.98	15.06	9.18	7.23	3.44	1.89	0.91	0.29	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
307-A3	210	215	7.70	1.88	-0.41	0.76	100.00	91.56	71.42	50.78	32.74	18.05	7.43	4.19	2.03	0.84	0.36	0.14	0.00
307-A3	215	220	8.28	1.85	-0.67	1.91	100.00	86.46	56.54	32.90	21.44	11.93	5.85	3.70	2.12	0.80	0.30	0.06	0.00
307-A3	220	225	8.53	1.99	-0.97	3.78	100.00	83.36	46.62	22.60	14.57	10.20	7.44	6.84	3.41	1.56	0.61	0.27	0.00
307-A3	225	230	8.49	2.09	-0.97	3.84	100.00	82.10	44.91	24.40	16.94	10.88	7.19	5.95	4.42	2.27	1.01	0.54	0.00
307-A3	230	235	8.06	1.88	-0.52	1.07	100.00	88.22	61.12	40.90	26.07	14.86	6.66	3.51	1.77	0.89	0.33	0.07	0.00
307-A3	235	240	8.64	1.69	-0.72	2.22	100.00	80.69	46.21	25.82	17.27	8.15	3.77	2.36	1.23	0.37	0.10	0.00	0.00
307-A3	240	245	8.76	1.64	-0.75	2.37	100.00	79.18	42.34	23.28	14.65	8.28	3.58	1.81	0.89	0.27	0.07	0.00	0.00
307-A3	245	250	8.48	1.83	-0.80	2.72	100.00	85.25	48.50	26.44	17.93	11.14	5.84	3.65	1.88	0.81	0.38	0.09	0.00
307-A3	250	255	8.38	1.98	-0.79	2.53	100.00	83.71	50.59	29.13	18.87	12.70	7.35	4.58	2.63	1.55	0.59	0.15	0.00
307-A3	255	260	8.05	1.95	-0.48	0.79	100.00	85.68	60.42	40.53	27.90	16.62	7.42	3.15	1.67	0.79	0.34	0.22	0.00
307-A3	260	265	7.49	1.78	-0.43	0.98	100.00	95.55	79.78	56.35	34.28	18.76	7.78	4.34	2.72	0.94	0.27	0.00	0.00
308-A3	0	5	7.69	1.65	-0.10	-0.76	100.00	92.87	73.08	53.15	37.91	18.70	3.85	0.87	0.11	0.09	0.06	0.00	0.00
308-A3	5	10	7.26	1.54	0.04	-0.51	100.00	96.07	84.76	66.97	45.59	25.54	4.19	0.99	0.10	0.07	0.04	0.03	0.00
308-A3	10	14	7.78	1.59	-0.10	-0.95	100.00	92.77	73.67	50.59	33.84	17.33	3.36	0.19	0.02	0.00	0.00	0.00	0.00
308-A3	14	19	7.35	1.68	0.01	-1.05	100.00	94.67	79.91	60.80	44.27	26.73	7.74	0.35	0.04	0.00	0.00	0.00	0.00
308-A3	19	24	7.18	2.05	-0.16	-0.71	100.00	93.43	76.92	58.71	46.82	30.99	14.09	7.44	3.54	0.00	0.00	0.00	0.00
308-A3	24	27	7.03	1.77	-0.11	-0.26	100.00	96.21	85.18	68.85	49.45	29.63	10.41	4.97	2.57	0.00	0.00	0.00	0.00
308-A3	27	31	7.36	1.70	-0.02	-0.93	100.00	94.68	79.43	60.61	44.24	25.51	8.41	1.25	0.13	0.00	0.00	0.00	0.00
308-A3	31	36	7.27	1.62	0.03	-0.84	100.00	95.51	82.90	64.47	46.03	26.67	6.91	0.89	0.09	0.03	0.00	0.00	0.00
308-A3	36	41	6.95	1.74	0.05	-0.63	100.00	95.86	84.80	70.20	55.35	33.47	10.36	4.45	0.56	0.00	0.00	0.00	0.00
308-A3	41	46	7.14	1.49	0.12	-0.62	100.00	96.75	86.87	70.29	50.10	27.15	4.01	0.95	0.10	0.00	0.00	0.00	0.00
308-A3	46	51	7.47	1.57	-0.03	-0.79	100.00	95.41	80.74	60.21	40.27	21.21	4.62	0.80	0.08	0.00	0.00	0.00	0.00
308-A3	51	56	6.96	1.52	0.04	-0.38	100.00	97.78	89.67	74.28	52.25	29.82	7.91	2.27	0.31	0.03	0.00	0.00	0.00
308-A3	56	62	7.54	1.51	0.03	-0.52	100.00	93.87	79.88	62.42	40.85	15.09	3.08	0.83	0.08	0.03	0.01	0.00	0.00
308-A3	62	67	8.79	1.17	-0.76	4.11	100.00	90.27	49.60	18.54	8.58	2.58	1.02	0.46	0.28	0.12	0.00	0.00	0.00
308-A3	67	73	6.77	2.20	-0.03	-1.25	100.00	94.62	80.17	62.39	52.09	41.48	27.02	13.28	1.80	0.00	0.00	0.00	0.00
308-A3	73	78	7.29	2.13	-0.18	-1.05	100.00	92.82	72.34	53.35	43.45	30.43	18.04	9.99	0.62	0.14	0.00	0.00	0.00
308-A3	78	82	7.91	1.57	-0.14	-0.94	100.00	92.38	70.88	46.26	30.95	16.28	2.05	0.28	0.01	0.00	0.00	0.00	0.00
308-A3	82	87	7.93	1.56	-0.20	-0.71	100.00	93.05	71.24	45.71	28.61	15.33	3.15	0.37	0.04	0.00	0.00	0.00	0.00
308-A3	87	92	6.18	2.56	0.01	-1.32	100.00	95.28	81.40	66.91	58.14	49.29	39.29	28.57	9.88	2.90	0.00	0.00	0.00
308-A3	92	95	8.30	1.64	-0.33	-0.42	100.00	86.03	58.51	35.42	24.33	11.80	3.19	0.72	0.07	0.00	0.00	0.00	0.00
308-A3	95	100	8.94	1.11	-0.76	2.90	100.00	89.08	40.59	15.20	7.25	2.83	0.85	0.17	0.00	0.00	0.00	0.00	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
308-A3	100	105	8.42	1.26	-0.38	0.36	100.00	92.56	64.32	30.12	15.03	5.07	1.00	0.16	0.01	0.00	0.00	0.00	0.00
308-A3	105	110	7.95	1.50	-0.22	-0.59	100.00	93.44	72.95	44.46	27.20	13.55	3.15	0.22	0.01	0.00	0.00	0.00	0.00
308-A3	110	115	7.59	1.45	-0.08	-0.54	100.00	95.95	82.27	58.52	34.56	15.77	3.76	0.45	0.04	0.00	0.00	0.00	0.00
308-A3	115	120	7.59	1.46	-0.11	-0.54	100.00	96.21	81.78	57.85	34.44	15.99	4.14	0.52	0.05	0.00	0.00	0.00	0.00
308-A3	120	125	7.51	1.61	-0.01	-0.90	100.00	94.31	77.86	59.09	41.89	20.36	4.53	0.65	0.07	0.00	0.00	0.00	0.00
308-A3	125	130	7.68	1.54	-0.11	-0.56	100.00	94.19	77.91	55.17	34.14	16.19	3.74	1.01	0.10	0.00	0.00	0.00	0.00
308-A3	130	135	7.51	1.56	-0.10	-0.42	100.00	95.39	80.90	59.66	38.35	18.48	4.26	1.97	0.20	0.00	0.00	0.00	0.00
308-A3	135	140	7.62	1.66	-0.10	-0.81	100.00	93.29	75.85	54.58	37.55	20.51	5.25	1.23	0.12	0.00	0.00	0.00	0.00
308-A3	140	145	7.47	1.58	-0.03	-0.72	100.00	95.16	80.29	59.96	41.61	20.58	3.98	1.25	0.13	0.00	0.00	0.00	0.00
308-A3	145	150	7.82	1.50	-0.14	-0.67	100.00	94.22	75.11	49.42	31.87	14.72	1.50	0.81	0.08	0.00	0.00	0.00	0.00
308-A3	150	155	7.81	1.56	-0.19	-0.47	100.00	93.69	74.70	49.41	31.65	14.35	3.94	1.05	0.14	0.00	0.00	0.00	0.00
308-A3	155	160	7.86	1.51	-0.17	-0.58	100.00	93.96	74.11	49.16	29.92	13.80	2.73	0.60	0.08	0.00	0.00	0.00	0.00
308-A3	160	165	7.59	1.52	-0.06	-0.48	100.00	94.57	79.49	58.61	36.93	16.94	2.67	1.20	0.19	0.04	0.00	0.00	0.00
308-A3	165	170	7.56	1.63	-0.12	-0.57	100.00	94.49	78.56	56.71	37.56	19.80	5.11	2.01	0.20	0.00	0.00	0.00	0.00
308-A3	170	175	7.54	1.62	-0.02	-1.03	100.00	94.27	77.57	56.59	40.53	22.45	4.16	0.41	0.04	0.00	0.00	0.00	0.00
308-A3	175	178	7.19	2.06	-0.21	-0.67	100.00	93.89	77.92	58.62	43.25	29.08	15.22	10.40	2.24	0.31	0.00	0.00	0.00
308-A3	178	181	8.84	1.21	-0.76	3.03	100.00	88.77	44.75	17.65	8.78	3.43	1.56	0.53	0.05	0.00	0.00	0.00	0.00
308-A3	183	187	7.82	1.38	-0.14	-0.47	100.00	95.73	79.14	51.23	28.36	11.75	1.89	0.30	0.03	0.00	0.00	0.00	0.00
316-P3	5	10	8.28	1.78	-0.73	2.48	100.00	88.19	58.97	32.44	18.89	10.32	5.46	3.46	2.74	0.97	0.08	0.00	0.00
316-P3	25	30	7.92	2.20	-0.57	1.03	100.00	86.37	60.55	39.01	27.07	20.20	12.44	6.28	3.44	1.52	0.68	0.34	0.28
316-P3	45	50	7.82	2.12	-0.53	0.72	100.00	88.63	64.76	44.37	27.66	17.53	11.01	7.71	4.27	1.51	0.37	0.00	0.00
316-P3	65	70	8.33	1.84	-0.68	2.06	100.00	85.40	55.07	32.95	19.89	11.61	5.77	3.55	2.10	0.69	0.27	0.13	0.00
316-P3	85	90	7.51	2.58	-0.55	0.50	100.00	87.73	64.93	44.92	31.58	23.48	17.27	13.63	8.60	4.23	1.84	0.93	0.35
316-P3	105	110	8.37	1.78	-0.65	1.76	100.00	85.42	55.53	31.57	18.53	11.24	5.48	3.40	1.59	0.50	0.12	0.00	0.00
316-P3	125	130	8.19	1.79	-0.49	0.80	100.00	86.65	60.30	38.66	22.04	13.33	6.38	2.43	1.22	0.30	0.10	0.05	0.00
316-P3	145	150	8.09	1.86	-0.51	0.96	100.00	87.52	62.48	39.19	24.61	14.68	7.00	3.36	1.73	0.48	0.21	0.10	0.00
316-P3	165	169	8.18	2.01	-0.68	1.64	100.00	85.74	57.81	34.35	20.56	14.07	9.44	5.65	3.03	1.17	0.39	0.12	0.00
316-P3	185	190	8.41	1.82	-0.67	1.79	100.00	82.98	53.51	30.57	18.79	10.90	5.72	3.53	1.85	0.52	0.16	0.00	0.00
316-P3	205	210	8.30	2.06	-0.82	2.43	100.00	84.49	54.94	29.70	16.00	11.84	9.17	7.53	4.69	1.38	0.42	0.09	0.00
316-P3	226	230	8.26	1.89	-0.86	3.33	100.00	87.99	59.81	31.66	15.74	10.04	7.18	5.64	3.29	1.62	0.54	0.07	0.00
316-P3	245	250	8.51	2.06	-0.97	3.45	100.00	82.78	46.83	21.56	14.38	11.11	8.54	7.06	4.16	2.11	0.68	0.05	0.00
316-P3	265	270	8.24	1.85	-0.73	2.39	100.00	88.04	59.55	32.85	18.69	12.32	6.86	4.10	2.35	1.12	0.40	0.05	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
316-P3	285	290	8.02	2.19	-0.81	2.99	100.00	87.15	61.95	36.91	20.44	14.86	10.55	6.86	4.38	2.38	1.35	0.89	0.57
316-P3	305	310	8.46	1.78	-0.73	2.31	100.00	84.66	51.89	27.92	17.16	11.03	6.00	2.82	1.34	0.62	0.26	0.07	0.00
316-P3	325	330	8.57	1.81	-0.94	3.81	100.00	84.01	50.17	22.95	12.44	8.65	6.31	5.43	2.48	0.76	0.21	0.05	0.00
316-P3	345	350	8.33	1.73	-0.66	2.13	100.00	87.08	57.92	31.87	19.12	11.36	4.77	2.56	1.31	0.71	0.34	0.00	0.00
316-P3	365	370	8.37	1.87	-0.74	2.47	100.00	85.16	53.64	29.82	18.97	12.18	6.38	3.41	2.14	0.97	0.41	0.18	0.00
316-P3	385	390	8.43	1.82	-0.72	2.18	100.00	82.96	53.70	30.38	16.21	10.49	6.27	3.84	2.12	0.54	0.17	0.01	0.00
316-P3	405	410	8.01	2.44	-0.63	0.80	100.00	79.89	54.82	35.08	24.43	19.45	14.64	9.78	5.93	3.01	1.35	0.20	0.00
316-P3	425	430	8.07	1.98	-0.70	2.06	100.00	88.62	61.80	37.16	22.29	14.02	7.90	5.42	3.55	1.33	0.64	0.21	0.00
316-P3	445	450	8.00	2.24	-0.70	1.82	100.00	85.38	58.61	37.69	24.03	16.10	10.61	8.15	5.20	2.16	0.89	0.45	0.38
316-P3	465	470	8.36	1.75	-0.84	3.60	100.00	87.18	59.51	31.32	14.35	8.30	5.53	4.06	2.64	1.19	0.22	0.00	0.00
316-P3	485	490	8.71	1.37	-0.61	2.55	100.00	83.95	51.80	25.18	10.84	4.12	1.59	0.79	0.45	0.11	0.05	0.00	0.00
316-P3	505	508	8.56	1.44	-0.56	1.52	100.00	86.20	56.26	28.25	12.46	6.29	3.55	0.74	0.30	0.02	0.00	0.00	0.00
316-P3*	0	5	8.24	2.00	-0.54	0.15	100.00	84.06	54.00	30.74	22.46	16.62	10.57	7.32	0.00	0.00	0.00	0.00	0.00
316-P3*	5	10	8.24	1.87	-0.53	0.34	100.00	85.72	57.04	32.66	21.74	14.37	8.20	5.77	0.00	0.00	0.00	0.00	0.00
316-P3*	10	15	8.47	1.84	-0.70	1.23	100.00	84.36	49.84	25.04	16.73	12.05	8.30	6.35	0.00	0.00	0.00	0.00	0.00
316-P3*	15	20	8.49	1.83	-0.65	0.89	100.00	82.65	49.41	25.51	17.96	12.89	7.66	4.83	0.00	0.00	0.00	0.00	0.00
316-P3*	20	25	8.38	1.78	-0.55	0.41	100.00	84.82	53.67	29.21	19.43	14.19	6.98	3.22	0.00	0.00	0.00	0.00	0.00
316-P3*	25	30	7.86	2.14	-0.39	-0.65	100.00	87.54	61.12	38.72	28.94	23.16	15.34	8.89	0.00	0.00	0.00	0.00	0.00
316-P3*	30	35	7.79	2.13	-0.36	-0.72	100.00	88.02	63.05	41.08	30.42	23.77	15.17	9.31	0.00	0.00	0.00	0.00	0.00
316-P3*	35	40	7.66	2.12	-0.36	-0.65	100.00	90.23	67.82	44.39	30.97	22.81	15.82	11.66	0.00	0.00	0.00	0.00	0.00
316-P3*	41	45	7.77	2.08	-0.37	-0.54	100.00	89.19	65.63	42.57	29.78	21.68	13.87	10.03	0.00	0.00	0.00	0.00	0.00
316-P3*	45	50	7.79	2.03	-0.35	-0.59	100.00	89.26	65.33	43.50	30.35	21.40	13.18	7.55	0.00	0.00	0.00	0.00	0.00
316-P3*	50	55	7.37	2.21	-0.23	-1.04	100.00	90.99	70.55	51.48	38.13	28.41	19.28	13.92	0.00	0.00	0.00	0.00	0.00
316-P3*	55	60	7.97	1.82	-0.39	-0.13	100.00	89.80	65.30	41.90	26.23	16.12	8.47	4.81	0.00	0.00	0.00	0.00	0.00
316-P3*	60	65	8.02	1.88	-0.43	-0.18	100.00	89.06	63.26	38.24	24.97	17.84	9.87	4.87	0.00	0.00	0.00	0.00	0.00
316-P3*	65	70	8.29	1.73	-0.57	0.81	100.00	87.83	59.20	32.35	17.90	12.27	6.75	4.31	0.00	0.00	0.00	0.00	0.00
316-P3*	70	75	8.46	1.61	-0.63	1.32	100.00	87.00	56.14	28.13	14.69	9.93	5.50	2.84	0.00	0.00	0.00	0.00	0.00
316-P3*	75	80	8.32	1.81	-0.57	0.58	100.00	86.41	55.36	30.76	19.50	13.34	8.05	4.75	0.00	0.00	0.00	0.00	0.00
316-P3*	80	85	8.32	1.81	-0.58	0.67	100.00	86.06	55.79	31.59	19.02	12.69	7.95	5.20	0.00	0.00	0.00	0.00	0.00
316-P3*	85	90	7.77	2.13	-0.42	-0.46	100.00	89.49	64.93	41.79	27.91	20.62	15.48	12.37	0.00	0.00	0.00	0.00	0.00
316-P3*	90	95	7.81	2.04	-0.40	-0.41	100.00	89.94	65.17	42.46	28.41	20.15	13.21	9.68	0.00	0.00	0.00	0.00	0.00
316-P3*	95	100	8.31	1.82	-0.61	0.81	100.00	86.58	56.19	30.33	18.47	12.94	8.09	5.93	0.00	0.00	0.00	0.00	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
316-P3*	100	105	8.15	1.75	-0.42	-0.05	100.00	88.69	61.47	37.24	23.53	14.84	6.68	2.90	0.00	0.00	0.00	0.00	0.00
316-P3*	110	115	8.49	1.65	-0.75	2.07	100.00	87.49	54.18	25.40	13.26	9.29	6.07	4.90	0.00	0.00	0.00	0.00	0.00
316-P3*	115	120	8.56	1.53	-0.73	2.14	100.00	87.97	53.99	24.21	12.30	8.09	5.14	2.62	0.00	0.00	0.00	0.00	0.00
316-P3*	120	125	8.30	1.67	-0.55	0.76	100.00	88.76	59.68	32.87	17.81	11.85	6.01	3.27	0.00	0.00	0.00	0.00	0.00
316-P3*	125	130	8.01	1.76	-0.38	-0.17	100.00	90.33	65.87	40.71	24.92	16.38	7.62	3.16	0.00	0.00	0.00	0.00	0.00
316-P3*	130	135	8.37	1.62	-0.56	0.88	100.00	88.24	58.50	30.26	17.09	10.91	5.41	2.57	0.00	0.00	0.00	0.00	0.00
316-P3*	135	140	8.24	1.72	-0.52	0.52	100.00	88.47	60.58	33.65	19.58	12.96	6.87	3.62	0.00	0.00	0.00	0.00	0.00
316-P3*	140	145	8.17	1.80	-0.49	0.11	100.00	88.75	61.02	33.76	21.34	15.18	10.01	3.00	0.00	0.00	0.00	0.00	0.00
316-P3*	145	150	7.71	1.49	-0.48	0.41	100.00	100.00	78.96	51.05	25.59	13.15	7.32	2.94	0.00	0.00	0.00	0.00	0.00
316-P3*	150	155	7.61	1.67	-0.47	-0.03	100.00	100.00	77.50	49.26	28.37	18.03	10.25	5.38	0.00	0.00	0.00	0.00	0.00
316-P3*	155	160	7.80	1.83	-0.33	-0.27	100.00	90.37	71.54	47.45	27.74	17.84	9.89	5.02	0.00	0.00	0.00	0.00	0.00
316-P3*	160	165	7.65	1.59	-0.45	0.02	100.00	100.00	77.96	50.18	27.01	16.86	9.09	3.54	0.00	0.00	0.00	0.00	0.00
316-P3*	165	169	7.71	1.58	-0.47	0.14	100.00	100.00	76.20	48.98	26.65	15.61	7.98	3.62	0.00	0.00	0.00	0.00	0.00
316-P3*	170	175	7.63	1.62	-0.46	-0.03	100.00	100.00	78.28	49.60	27.44	17.68	9.90	4.05	0.00	0.00	0.00	0.00	0.00
316-P3*	175	180	7.74	1.61	-0.49	0.11	100.00	100.00	75.52	45.34	26.12	16.70	8.52	3.75	0.00	0.00	0.00	0.00	0.00
316-P3*	180	185	7.46	1.68	-0.42	-0.15	100.00	100.00	81.45	54.64	30.84	19.64	11.08	6.16	0.00	0.00	0.00	0.00	0.00
316-P3*	185	190	7.75	1.51	-0.50	0.39	100.00	100.00	78.05	47.94	24.58	14.18	7.40	2.97	0.00	0.00	0.00	0.00	0.00
316-P3*	190	195	7.97	1.36	-0.58	1.16	100.00	100.00	75.04	43.12	18.99	10.07	4.07	2.14	0.00	0.00	0.00	0.00	0.00
316-P3*	195	200	7.59	1.62	-0.40	-0.28	100.00	100.00	78.23	51.07	29.82	18.37	10.06	3.21	0.00	0.00	0.00	0.00	0.00
316-P3*	200	205	7.18	1.68	-0.24	-0.71	100.00	100.00	84.85	62.82	41.09	25.96	12.18	5.28	0.00	0.00	0.00	0.00	0.00
316-P3*	205	210	7.12	1.87	-0.26	-0.94	100.00	100.00	83.03	59.59	39.83	28.78	18.43	8.81	0.00	0.00	0.00	0.00	0.00
316-P3*	210	215	7.38	1.70	-0.37	-0.43	100.00	100.00	82.29	55.75	33.13	21.76	12.94	5.65	0.00	0.00	0.00	0.00	0.00
316-P3*	215	220	7.61	1.54	-0.48	0.39	100.00	100.00	80.97	53.75	26.28	15.12	8.37	4.34	0.00	0.00	0.00	0.00	0.00
316-P3*	221	226	7.59	1.60	-0.48	0.16	100.00	100.00	80.54	52.61	27.17	15.76	10.94	4.43	0.00	0.00	0.00	0.00	0.00
316-P3*	226	231	7.68	1.52	-0.49	0.36	100.00	100.00	79.63	50.35	25.46	15.47	7.00	3.71	0.00	0.00	0.00	0.00	0.00
316-P3*	230	235	7.59	1.61	-0.45	0.02	100.00	100.00	80.13	51.87	28.01	17.33	9.91	4.21	0.00	0.00	0.00	0.00	0.00
316-P3*	235	240	7.55	1.71	-0.46	-0.10	100.00	100.00	79.30	49.92	28.63	19.73	11.21	6.38	0.00	0.00	0.00	0.00	0.00
316-P3*	240	245	7.62	1.56	-0.44	0.00	100.00	100.00	79.90	51.28	27.78	17.10	8.29	3.24	0.00	0.00	0.00	0.00	0.00
316-P3*	245	250	7.29	1.80	-0.34	-0.66	100.00	100.00	82.03	56.38	35.30	24.86	15.07	7.63	0.00	0.00	0.00	0.00	0.00
316-P3*	250	255	7.44	1.61	-0.35	-0.43	100.00	100.00	82.50	55.67	32.63	21.15	10.31	3.55	0.00	0.00	0.00	0.00	0.00
316-P3*	255	260	7.61	1.60	-0.44	-0.07	100.00	100.00	79.12	50.23	28.57	18.04	8.83	3.89	0.00	0.00	0.00	0.00	0.00
316-P3*	260	265	7.36	1.77	-0.31	-0.77	100.00	100.00	79.42	54.43	35.41	25.28	13.89	5.13	0.00	0.00	0.00	0.00	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
316-P3*	265	270	7.39	1.72	-0.32	-0.66	100.00	100.00	80.52	54.99	34.84	23.70	12.72	4.62	0.00	0.00	0.00	0.00	0.00
316-P3*	270	275	7.22	1.67	-0.21	-0.88	100.00	100.00	83.56	61.50	40.01	27.01	12.67	3.48	0.00	0.00	0.00	0.00	0.00
316-P3*	275	280	7.43	1.70	-0.32	-0.65	100.00	100.00	79.69	53.97	34.52	23.28	11.48	4.00	0.00	0.00	0.00	0.00	0.00
316-P3*	281	286	7.20	1.84	-0.24	-0.98	100.00	100.00	80.51	57.99	40.09	28.82	16.25	6.56	0.00	0.00	0.00	0.00	0.00
316-P3*	285	290	7.17	1.83	-0.23	-1.02	100.00	100.00	80.97	58.77	40.80	29.43	16.58	6.16	0.00	0.00	0.00	0.00	0.00
316-P3*	290	295	7.36	1.80	-0.34	-0.70	100.00	100.00	79.41	53.64	35.22	24.31	14.68	6.55	0.00	0.00	0.00	0.00	0.00
316-P3*	295	300	7.71	1.58	-0.44	-0.09	100.00	100.00	76.50	47.38	27.28	17.48	7.73	2.89	0.00	0.00	0.00	0.00	0.00
316-P3*	300	305	7.96	1.78	-0.37	-0.23	100.00	90.56	66.68	42.20	25.85	16.65	8.53	3.34	0.00	0.00	0.00	0.00	0.00
316-P3*	305	310	8.65	1.68	-0.70	1.38	100.00	82.62	45.69	22.31	15.06	10.46	6.33	2.50	0.00	0.00	0.00	0.00	0.00
316-P3*	310	315	8.85	1.55	-0.91	3.21	100.00	81.57	40.87	15.84	10.63	7.72	5.13	2.85	0.00	0.00	0.00	0.00	0.00
316-P3*	315	320	6.80	2.86	-0.06	-1.81	100.00	88.05	63.49	49.08	45.18	43.24	41.00	39.50	0.00	0.00	0.00	0.00	0.00
316-P3*	320	325	8.72	1.79	-0.80	1.85	100.00	79.64	41.97	19.48	13.56	10.99	8.22	4.54	0.00	0.00	0.00	0.00	0.00
316-P3*	325	330	8.75	1.66	-0.80	2.17	100.00	81.11	42.76	20.13	13.15	8.75	5.91	3.44	0.00	0.00	0.00	0.00	0.00
316-P3*	330	335	8.81	1.65	-0.89	2.82	100.00	80.64	41.63	16.78	11.32	8.69	6.44	3.76	0.00	0.00	0.00	0.00	0.00
316-P3*	335	340	9.02	1.42	-0.90	3.52	100.00	77.41	36.88	14.43	9.04	5.87	3.16	1.52	0.00	0.00	0.00	0.00	0.00
316-P3*	340	345	8.76	1.58	-0.77	2.09	100.00	81.61	44.87	19.46	12.12	8.95	5.02	2.14	0.00	0.00	0.00	0.00	0.00
316-P3*	345	350	8.67	1.59	-0.76	2.06	100.00	84.37	47.96	21.20	12.44	9.11	5.51	2.65	0.00	0.00	0.00	0.00	0.00
316-P3*	350	355	8.55	1.76	-0.67	1.05	100.00	83.64	48.34	23.69	16.29	12.50	7.50	3.16	0.00	0.00	0.00	0.00	0.00
316-P3*	355	360	8.48	1.80	-0.63	0.79	100.00	83.62	50.53	25.82	16.87	13.22	8.57	3.34	0.00	0.00	0.00	0.00	0.00
316-P3*	360	365	8.20	1.86	-0.50	0.14	100.00	86.49	59.25	33.11	21.47	15.97	9.39	4.45	0.00	0.00	0.00	0.00	0.00
316-P3*	365	370	8.36	1.75	-0.56	0.64	100.00	85.78	57.18	29.75	17.84	12.95	7.41	3.32	0.00	0.00	0.00	0.00	0.00
316-P3*	371	376	8.36	1.79	-0.55	0.47	100.00	84.49	55.43	30.71	18.94	13.17	7.86	3.54	0.00	0.00	0.00	0.00	0.00
316-P3*	375	380	8.30	1.94	-0.64	0.69	100.00	85.81	54.24	28.32	18.32	14.15	11.10	7.62	0.00	0.00	0.00	0.00	0.00
316-P3*	381	386	8.32	1.83	-0.61	0.81	100.00	85.96	56.37	29.98	17.96	12.72	8.84	5.74	0.00	0.00	0.00	0.00	0.00
316-P3*	385	390	8.50	1.62	-0.67	1.61	100.00	85.99	55.22	26.97	14.22	9.09	5.50	3.49	0.00	0.00	0.00	0.00	0.00
316-P3*	390	395	8.20	1.92	-0.54	0.34	100.00	85.83	58.50	33.27	20.20	15.20	10.09	6.67	0.00	0.00	0.00	0.00	0.00
316-P3*	395	400	7.80	2.13	-0.39	-0.64	100.00	88.69	63.69	39.84	28.23	22.98	16.77	9.38	0.00	0.00	0.00	0.00	0.00
316-P3*	401	406	8.02	2.03	-0.51	-0.06	100.00	88.51	60.89	34.69	23.42	18.24	13.46	9.08	0.00	0.00	0.00	0.00	0.00
316-P3*	405	410	6.91	2.56	-0.12	-1.56	100.00	91.29	71.69	52.87	43.30	38.11	32.63	28.66	0.00	0.00	0.00	0.00	0.00
316-P3*	410	415	7.53	2.15	-0.30	-0.86	100.00	91.27	69.31	47.20	34.05	25.29	17.74	12.01	0.00	0.00	0.00	0.00	0.00
316-P3*	415	420	8.03	1.99	-0.47	-0.17	100.00	87.98	61.24	36.33	23.70	18.38	13.12	6.69	0.00	0.00	0.00	0.00	0.00
316-P3*	420	425	8.38	1.74	-0.62	1.00	100.00	86.41	56.09	28.98	17.18	11.53	7.22	4.35	0.00	0.00	0.00	0.00	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
316-P3*	425	430	8.06	1.96	-0.48	-0.06	100.00	88.06	60.96	36.02	23.59	17.17	12.20	6.50	0.00	0.00	0.00	0.00	0.00
316-P3*	430	435	8.00	2.00	-0.50	0.01	100.00	88.74	62.00	36.61	23.39	17.04	12.91	8.98	0.00	0.00	0.00	0.00	0.00
316-P3*	435	440	8.28	2.17	-0.48	-0.28	100.00	75.85	48.31	35.13	25.31	16.95	12.25	8.57	0.00	0.00	0.00	0.00	0.00
316-P3*	440	445	8.55	2.37	-0.56	-0.25	100.00	62.27	34.67	29.74	24.26	18.96	14.14	10.58	0.00	0.00	0.00	0.00	0.00
316-P3*	445	450	9.05	2.16	-0.79	1.09	100.00	48.57	25.79	22.43	17.95	12.59	9.75	7.56	0.00	0.00	0.00	0.00	0.00
316-P3*	451	456	7.92	2.36	-0.20	-1.23	100.00	69.47	53.44	49.52	39.26	24.66	13.68	8.18	0.00	0.00	0.00	0.00	0.00
316-P3*	455	460	8.39	2.19	-0.37	-0.79	100.00	64.75	45.46	39.26	29.20	17.67	10.34	4.55	0.00	0.00	0.00	0.00	0.00
316-P3*	460	465	9.02	2.07	-0.79	1.25	100.00	53.42	27.51	22.83	17.51	11.11	8.32	7.11	0.00	0.00	0.00	0.00	0.00
316-P3*	465	470	9.07	1.90	-0.70	0.93	100.00	51.70	30.66	26.01	18.01	7.52	5.28	3.61	0.00	0.00	0.00	0.00	0.00
316-P3*	470	475	8.42	1.37	-0.46	1.37	100.00	89.13	63.19	34.50	11.52	5.14	3.02	1.15	0.00	0.00	0.00	0.00	0.00
316-P3*	475	480	9.01	1.72	-0.61	0.60	100.00	60.62	33.38	27.05	17.70	5.44	3.25	1.80	0.00	0.00	0.00	0.00	0.00
316-P3*	480	485	8.92	1.81	-0.50	-0.30	100.00	60.11	33.86	29.59	22.04	8.37	3.36	0.67	0.00	0.00	0.00	0.00	0.00
316-P3*	485	490	9.25	1.62	-0.79	1.69	100.00	55.27	25.73	20.90	13.12	5.26	3.25	1.19	0.00	0.00	0.00	0.00	0.00
316-P3*	490	495	9.20	1.60	-0.75	1.52	100.00	58.64	27.50	21.54	12.07	5.82	3.01	0.92	0.00	0.00	0.00	0.00	0.00
316-P3*	495	500	9.26	1.71	-0.81	1.84	100.00	51.27	25.78	21.66	13.50	5.97	3.61	2.22	0.00	0.00	0.00	0.00	0.00
316-P3*	500	505	9.39	1.57	-0.90	2.62	100.00	50.02	23.25	18.29	11.13	4.52	2.60	1.56	0.00	0.00	0.00	0.00	0.00
316-P3*	505	508	8.48	1.37	-0.39	0.80	100.00	86.66	61.47	33.24	12.68	5.05	2.15	0.81	0.00	0.00	0.00	0.00	0.00
316-T3*	0	5	9.03	1.47	-0.83	2.99	100.00	73.40	37.75	16.43	9.76	5.41	2.75	1.88	0.00	0.00	0.00	0.00	0.00
316-T3*	5	10	9.25	1.73	-0.76	1.26	100.00	50.23	26.02	21.53	16.14	6.69	2.92	1.72	0.00	0.00	0.00	0.00	0.00
316-T3*	10	15	8.58	1.87	-0.65	0.97	100.00	77.49	46.84	26.00	17.62	11.18	7.81	5.56	0.00	0.00	0.00	0.00	0.00
316-T3*	15	20	8.40	1.66	-0.48	0.40	100.00	84.91	55.90	32.40	19.30	10.29	4.77	2.14	0.00	0.00	0.00	0.00	0.00
316-T3*	20	25	8.06	1.85	-0.35	-0.40	100.00	86.63	61.33	41.05	26.52	16.71	8.15	3.20	0.00	0.00	0.00	0.00	0.00
316-T3*	25	30	7.70	2.11	-0.32	-0.75	100.00	88.82	65.80	45.36	31.76	23.21	15.70	9.26	0.00	0.00	0.00	0.00	0.00
316-T3*	30	35	7.52	2.28	-0.27	-1.06	100.00	88.71	64.66	47.49	36.16	27.42	19.65	14.00	0.00	0.00	0.00	0.00	0.00
316-T3*	35	40	8.20	1.91	-0.53	0.25	100.00	86.99	56.68	33.06	22.33	15.26	9.62	6.45	0.00	0.00	0.00	0.00	0.00
316-T3*	40	45	7.86	1.94	-0.30	-0.62	100.00	88.23	64.50	44.49	32.42	20.03	9.37	5.41	0.00	0.00	0.00	0.00	0.00
316-T3*	45	50	7.99	1.90	-0.36	-0.41	100.00	87.66	62.30	41.23	28.23	17.79	9.21	4.53	0.00	0.00	0.00	0.00	0.00
316-T3*	50	55	8.22	1.74	-0.42	0.02	100.00	86.70	59.39	36.71	22.71	13.22	6.19	2.76	0.00	0.00	0.00	0.00	0.00
316-T3*	55	60	7.32	1.95	-0.11	-0.93	100.00	92.46	75.32	59.15	43.18	27.29	13.94	6.32	0.00	0.00	0.00	0.00	0.00
316-T3*	60	65	7.32	2.23	-0.20	-1.10	100.00	90.73	70.83	52.94	40.30	28.92	20.14	14.47	0.00	0.00	0.00	0.00	0.00
316-T3*	65	70	8.31	1.61	-0.43	0.25	100.00	87.44	59.29	35.71	20.26	10.12	4.25	1.85	0.00	0.00	0.00	0.00	0.00
316-T3*	70	75	8.30	1.67	-0.48	0.45	100.00	87.23	59.08	34.60	20.62	10.45	5.34	2.88	0.00	0.00	0.00	0.00	0.00

Table 4. (Continued)

CORE	TOP (cm)	BOTTOM (cm)	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	Cumulative percent coarser than given phi size												
							11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
316-T3*	75	80	7.70	1.96	-0.29	-0.70	100.00	90.59	68.68	47.15	32.48	21.80	13.26	5.75	0.00	0.00	0.00	0.00	0.00
316-T3*	80	85	8.20	1.83	-0.55	0.52	100.00	88.00	59.46	33.69	20.30	13.43	8.92	5.75	0.00	0.00	0.00	0.00	0.00
316-T3*	85	90	8.08	1.95	-0.50	0.09	100.00	87.96	60.43	35.49	23.13	16.23	11.17	7.20	0.00	0.00	0.00	0.00	0.00
316-T3*	90	95	8.34	1.76	-0.59	0.76	100.00	87.30	56.48	29.73	18.05	12.64	7.98	3.99	0.00	0.00	0.00	0.00	0.00
316-T3*	95	100	8.31	1.81	-0.60	0.76	100.00	86.80	56.63	30.17	18.32	12.96	8.55	5.21	0.00	0.00	0.00	0.00	0.00
316-T3*	100	105	8.19	1.96	-0.51	0.04	100.00	85.82	55.92	32.86	23.24	16.34	10.87	6.06	0.00	0.00	0.00	0.00	0.00
316-T3*	105	110	8.64	1.59	-0.82	2.63	100.00	85.59	50.16	21.49	11.26	8.30	5.54	3.97	0.00	0.00	0.00	0.00	0.00
333-P2	5	10	8.79	1.33	-0.82	4.86	100.00	83.94	50.90	21.15	6.81	3.63	2.16	1.35	0.48	0.20	0.06	0.00	0.00
333-P2	25	30	8.10	1.67	-0.31	0.06	100.00	87.78	64.09	42.91	26.64	12.29	3.87	1.24	0.43	0.18	0.11	0.00	0.00
333-P2	45	50	8.41	1.62	-0.46	1.12	100.00	83.51	57.06	35.21	20.34	8.44	2.35	1.09	0.57	0.28	0.12	0.08	0.00
333-P2	65	70	8.32	1.82	-0.69	2.16	100.00	85.23	57.45	32.74	18.69	10.91	6.15	3.22	2.09	0.96	0.24	0.00	0.00
333-P2	85	90	8.84	1.49	-0.80	3.77	100.00	78.55	44.62	21.75	10.72	5.55	2.04	1.45	0.76	0.30	0.11	0.03	0.00
333-P2	105	110	8.70	1.67	-1.02	5.64	100.00	82.45	48.36	21.06	10.95	7.13	4.34	2.80	1.70	0.86	0.48	0.18	0.00
333-P2	125	130	8.16	1.89	-0.68	2.05	100.00	87.36	61.35	37.29	19.85	12.43	7.03	4.99	2.57	1.04	0.37	0.10	0.00
333-P2	145	147	8.30	1.89	-0.78	2.89	100.00	85.32	58.26	32.44	17.37	10.38	6.85	4.83	2.79	1.31	0.43	0.17	0.00
333-P2	165	170	8.15	1.65	-0.47	1.06	100.00	89.33	64.72	40.06	21.57	11.16	4.49	2.14	0.88	0.35	0.08	0.00	0.00
333-P2	185	190	8.25	1.59	-0.66	3.56	100.00	88.59	65.66	39.11	16.71	6.83	3.47	2.10	1.24	0.72	0.35	0.14	0.00
333-P2	205	210	8.05	1.75	-0.50	1.40	100.00	89.11	66.33	42.33	24.48	12.78	5.08	2.70	1.26	0.64	0.28	0.10	0.00
333-P2	225	230	7.90	2.01	-0.72	2.91	100.00	90.09	66.93	42.76	24.96	14.49	8.28	5.37	3.35	1.66	0.86	0.53	0.53
333-P2	245	250	8.61	1.86	-0.87	3.10	99.82	80.66	43.63	23.77	14.52	10.15	7.26	3.40	2.26	1.00	0.30	0.05	0.00
333-P2	265	270	8.54	2.40	-0.66	0.67	100.00	64.17	34.20	28.16	26.15	18.45	11.88	6.23	3.98	1.72	0.52	0.07	0.00
333-P2	285	290	9.37	1.53	-1.29	7.66	100.00	60.42	20.78	12.47	8.11	4.64	2.89	2.10	1.24	0.48	0.11	0.00	0.00
333-P2	305	310	9.19	1.76	-1.31	7.63	100.00	64.08	26.35	13.47	8.55	5.77	4.44	4.03	2.32	0.92	0.51	0.18	0.00
333-P2	325	330	8.90	1.74	-0.91	3.47	100.00	71.80	38.52	20.41	11.37	7.21	5.03	3.95	1.34	0.36	0.05	0.00	0.00
333-P2	345	350	9.08	1.54	-0.73	2.19	100.00	65.57	35.73	20.40	11.89	4.86	1.97	1.13	0.40	0.11	0.02	0.00	0.00
333-P2	365	370	8.65	2.41	-1.18	6.14	100.00	70.17	36.56	23.73	16.52	10.54	7.17	5.98	4.19	3.08	2.62	2.42	2.30
333-P2	385	390	8.62	1.67	-0.56	1.17	100.00	78.14	48.62	31.31	16.27	7.75	3.64	1.78	0.63	0.18	0.03	0.00	0.00
333-P2	410	410	8.79	1.91	-0.82	2.74	100.00	69.86	37.76	25.41	16.87	9.68	5.31	3.18	1.86	0.82	0.40	0.16	0.00
333-P2	425	429	8.72	1.73	-0.76	2.55	100.00	76.02	45.22	26.34	13.84	7.34	4.60	3.24	1.33	0.41	0.05	0.00	0.00

Table 5. Grain-size measurements for core 331-Pl made at Limnological Research Center, University of Minnesota
[Asterisk indicates samples treated to remove diatoms.]

DEPTH (cm)	MEAN (microns)	STANDARD DEVIATION	SKEWNESS	KURTOSIS	FREQUENCY (percent) at given size in microns (top) and phi (bottom)											
					<0.7 <10.48	0.7 10.48	1 9.97	1.3 9.59	1.8 9.12	2.3 8.76	3 8.38	4 7.97	5 7.64	6.5 7.27	8 6.97	10 6.64
0	34.00	33.60	0.20	24.30	0.00	0.00	0.01	0.02	0.05	0.15	0.36	0.67	1.39	2.40	4.04	5.60
20	38.50	34.70	0.20	21.50	0.00	0.00	0.01	0.02	0.04	0.10	0.22	0.40	0.85	1.54	2.68	4.07
40	30.40	34.30	0.20	29.10	0.00	0.01	0.04	0.06	0.14	0.35	0.70	1.18	2.32	3.82	5.78	7.76
60	31.90	39.10	0.30	20.50	0.01	0.03	0.07	0.12	0.27	0.67	1.28	2.11	3.72	5.41	7.19	8.47
80	28.80	33.20	0.20	30.90	0.01	0.01	0.04	0.07	0.16	0.42	0.93	1.57	2.96	4.59	6.76	8.25
100	31.80	41.50	0.30	22.20	0.01	0.02	0.05	0.09	0.22	0.52	1.08	1.89	3.41	5.16	7.32	8.90
120	26.60	28.60	0.20	38.40	0.01	0.02	0.05	0.09	0.20	0.52	1.08	1.86	3.48	5.13	7.22	8.72
140	33.20	38.20	0.20	21.90	0.01	0.01	0.04	0.06	0.16	0.39	0.82	1.40	2.80	4.16	6.03	7.53
160	25.80	24.40	0.20	40.90	0.01	0.02	0.06	0.08	0.19	0.45	0.89	1.41	2.79	4.60	7.04	9.01
180	44.20	56.90	0.30	10.40	0.01	0.02	0.04	0.07	0.18	0.46	0.92	1.52	2.70	4.05	5.56	6.64
200	38.00	47.70	0.30	14.10	0.01	0.02	0.05	0.08	0.19	0.49	1.01	1.62	2.94	4.35	6.20	7.15
220	91.70	90.00	0.50	2.80	0.00	0.00	0.01	0.02	0.04	0.12	0.25	0.45	0.86	1.43	2.16	2.88
240	54.30	56.50	0.30	9.40	0.00	0.00	0.01	0.02	0.05	0.14	0.30	0.54	1.11	1.94	2.99	3.93
260	49.90	40.70	0.30	13.70	0.00	0.00	0.00	0.01	0.02	0.04	0.10	0.19	0.41	0.77	1.38	2.10
0*	58.40	53.10	0.30	9.30	0.00	0.00	0.01	0.01	0.02	0.05	0.12	0.24	0.51	0.93	1.63	2.49
20*	57.00	42.80	0.30	9.90	0.00	0.00	0.00	0.01	0.01	0.03	0.05	0.09	0.22	0.47	0.94	1.64
40*	39.20	31.80	0.20	16.70	0.00	0.00	0.01	0.02	0.04	0.10	0.21	0.37	0.80	1.52	2.86	4.61
60*	51.20	34.60	0.30	12.30	0.00	0.00	0.00	0.00	0.01	0.02	0.04	0.08	0.18	0.37	0.77	1.45
80*	49.00	52.80	0.30	10.80	0.00	0.01	0.01	0.02	0.05	0.12	0.26	0.48	0.97	1.62	2.65	4.30
100*	51.30	41.30	0.30	11.80	0.00	0.00	0.00	0.01	0.02	0.04	0.09	0.16	0.33	0.71	1.43	2.44
120*	46.40	38.70	0.30	12.70	0.00	0.00	0.01	0.01	0.03	0.06	0.14	0.24	0.51	1.02	2.05	3.39
140*	64.60	51.90	0.30	8.30	0.00	0.00	0.00	0.01	0.01	0.03	0.06	0.10	0.23	0.42	0.78	1.26
180*	94.10	75.80	0.40	3.50	0.00	0.00	0.00	0.00	0.01	0.02	0.04	0.08	0.18	0.35	0.62	0.96
200*	78.00	69.80	0.40	4.90	0.00	0.00	0.00	0.01	0.01	0.04	0.09	0.17	0.37	0.69	1.22	1.74
220*	162.30	79.30	0.10	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.05	0.08
240*	104.60	64.70	0.30	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.05	0.11	0.19
260*	101.00	63.60	0.30	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.06	0.12	0.23

Table 5. (Continued)

DEPTH (cm)	FREQUENCY (percent) at given size in microns (top) and phi (bottom)																
	13	17	20	25	31	37	44	53	63	75	88	105	125	149	177	210	250
	6.27	5.88	5.64	5.32	5.01	4.76	4.51	4.24	3.99	3.74	3.51	3.25	3	2.75	2.5	2.25	2
0	7.12	9.30	12.65	16.02	13.92	10.22	6.28	3.53	1.61	0.80	0.65	0.53	0.25	0.19	1.05	0.81	0.37
20	5.73	8.66	12.61	15.60	13.11	10.23	7.46	5.22	3.74	2.24	1.51	1.01	0.95	0.51	0.51	0.20	0.76
40	9.79	12.06	13.35	13.06	9.58	6.39	3.87	2.59	2.12	1.42	0.67	0.45	0.68	0.49	0.12	0.27	0.93
60	8.91	9.71	10.60	11.12	8.55	5.78	4.00	3.08	2.43	1.32	0.77	0.62	0.71	0.44	1.22	0.46	0.93
80	9.36	11.05	13.31	13.04	9.52	5.96	3.83	2.49	1.65	0.82	0.55	0.40	0.47	0.29	0.44	0.29	0.78
100	9.39	10.02	11.06	11.54	8.83	6.03	3.77	2.50	1.98	1.31	0.82	0.47	0.54	0.46	0.66	0.37	1.58
120	9.83	10.74	12.07	12.62	9.96	6.24	3.60	2.17	1.39	0.72	0.42	0.33	0.37	0.17	0.30	0.21	0.51
140	8.82	9.47	11.01	12.51	10.44	7.05	4.81	3.91	2.39	1.14	0.79	1.09	0.67	0.36	0.42	0.92	0.80
160	10.76	12.47	13.69	12.32	8.58	5.48	3.64	2.17	1.41	0.78	0.58	0.43	0.33	0.16	0.24	0.24	0.18
180	7.20	8.62	10.35	11.65	9.51	7.17	5.13	3.33	2.73	2.16	1.12	0.71	1.22	1.16	1.14	1.34	3.33
200	7.70	8.77	10.83	12.05	9.37	7.04	5.16	4.01	2.31	1.27	0.88	1.04	0.58	0.38	1.57	1.57	1.37
220	3.36	4.49	6.13	8.36	8.14	7.70	6.75	6.20	5.31	3.30	2.58	2.93	3.59	2.56	2.86	3.80	13.72
240	4.77	6.34	8.25	10.43	10.09	9.90	8.82	7.15	5.44	4.04	2.82	2.00	2.10	1.44	1.18	0.65	3.54
260	3.05	5.02	8.57	12.41	12.95	12.32	10.98	8.03	6.81	4.52	3.17	1.93	1.94	1.14	0.73	0.32	1.08
0*	3.24	4.55	7.22	10.81	11.23	10.60	9.93	8.70	6.73	5.01	3.70	3.32	2.81	1.71	0.75	1.01	2.68
20*	2.60	4.38	6.97	9.96	10.63	10.92	10.76	10.40	8.45	6.18	4.43	3.77	3.10	1.86	0.58	0.57	0.96
40*	6.35	8.27	10.97	13.67	12.43	9.93	7.89	6.36	4.46	3.25	1.87	1.50	1.01	0.68	0.19	0.37	0.25
60*	2.52	4.24	7.30	11.21	12.66	12.30	11.57	10.48	8.82	5.67	3.52	2.72	2.10	1.02	0.26	0.29	0.40
80*	5.84	7.94	10.58	13.49	11.45	8.62	6.60	5.61	4.62	3.17	1.87	1.89	2.11	1.27	0.70	1.29	2.43
100*	3.59	5.68	8.59	11.71	11.30	10.86	10.11	8.95	6.92	4.88	3.63	2.87	2.31	1.23	0.85	0.28	0.98
120*	4.71	6.84	10.05	12.83	11.37	10.07	9.12	7.73	6.07	3.93	2.89	2.23	1.92	1.09	0.72	0.36	0.63
140*	1.94	3.26	5.95	9.20	10.21	10.54	10.72	9.89	9.38	7.04	4.64	3.72	3.89	2.39	1.03	0.88	2.44
180*	1.34	2.24	3.88	6.30	7.20	8.08	8.62	8.76	7.20	6.40	6.39	6.68	5.47	4.01	2.99	3.63	8.54
200*	2.32	3.41	5.60	7.92	8.94	9.26	9.42	8.24	7.00	5.97	4.87	4.59	4.65	3.02	1.81	2.05	6.47
220*	0.11	0.20	0.40	0.81	1.21	1.93	3.09	4.66	5.76	5.83	6.75	9.45	11.53	8.21	6.16	7.03	26.69
240*	0.31	0.63	1.38	2.66	3.70	5.20	7.36	9.20	10.30	9.61	9.36	10.11	10.68	6.83	3.54	2.47	6.25
260*	0.40	0.78	1.62	3.19	4.38	5.75	7.36	9.17	10.14	9.49	9.55	10.01	9.86	6.13	3.72	2.72	5.25

APPENDIX A.

The following appendix contains the core descriptions, color photographs, and X-radiographs made for the box, gravity, and piston cores from the sites listed below. (See also Table 1). A key to the symbols used in the graphic core logs is included as the first page of the Appendix. The items in the Appendix are organized by site. After the first core description for each site, photographs and X-radiographs are presented for all of the cores at that site. In two cases, photographs or X-radiographs are grouped by core type: (1) the photographs of the 1991 box cores, and (2) X-radiographs of the 1991 trigger cores. These appear after the first core descriptions from site 316. Descriptions of the remaining cores at each site follow the photographs and X-radiographs.

Priority core sites (core descriptions and photographs follow):

1990	305
	306
	307
	308
1991	316
	321
	331
	333
1992	337
	339
	340
	342
	342

CORE DESCRIPTIONS

EXPLANATION

LITHOLOGY



Gap in core or no recovery



Mud (undifferentiated clay, clayey silt, and silty clay)



Silt, sandy silt



Sand, silty sand

○ ● Clasts: filled, lithified; open, soft

C > Macroscopic shells

++ Diatoms or diatomaceous layer

⌒ Wood

— --- Contact; solid where abrupt, dashed where gradational

STRUCTURE

- - Black streaks caused by iron monosulfides; oxidizes to brown colors upon exposure to air

■ ■ Black mottles, as above -

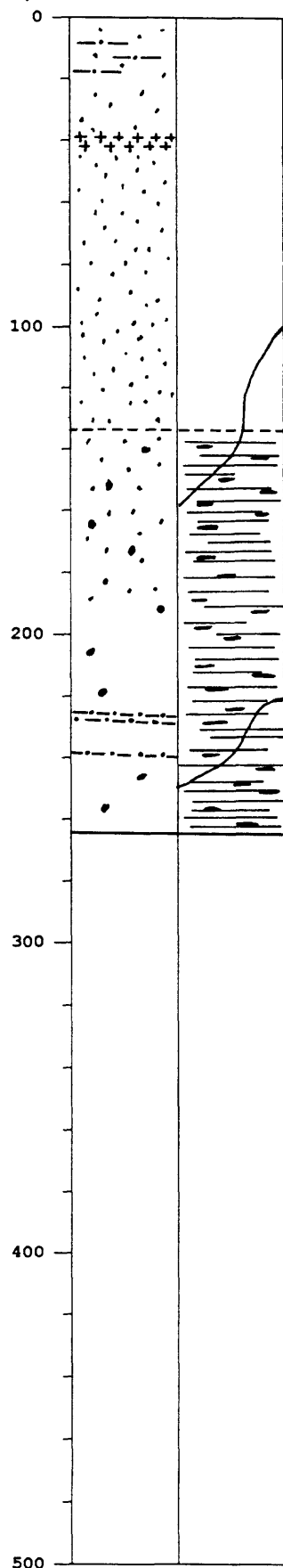
== Laminations, bedding

Notes:

1. All colors are for wet sediment in standard Munsell notation.

DEPTH LITHOLOGY STRUCTURE
(CM)

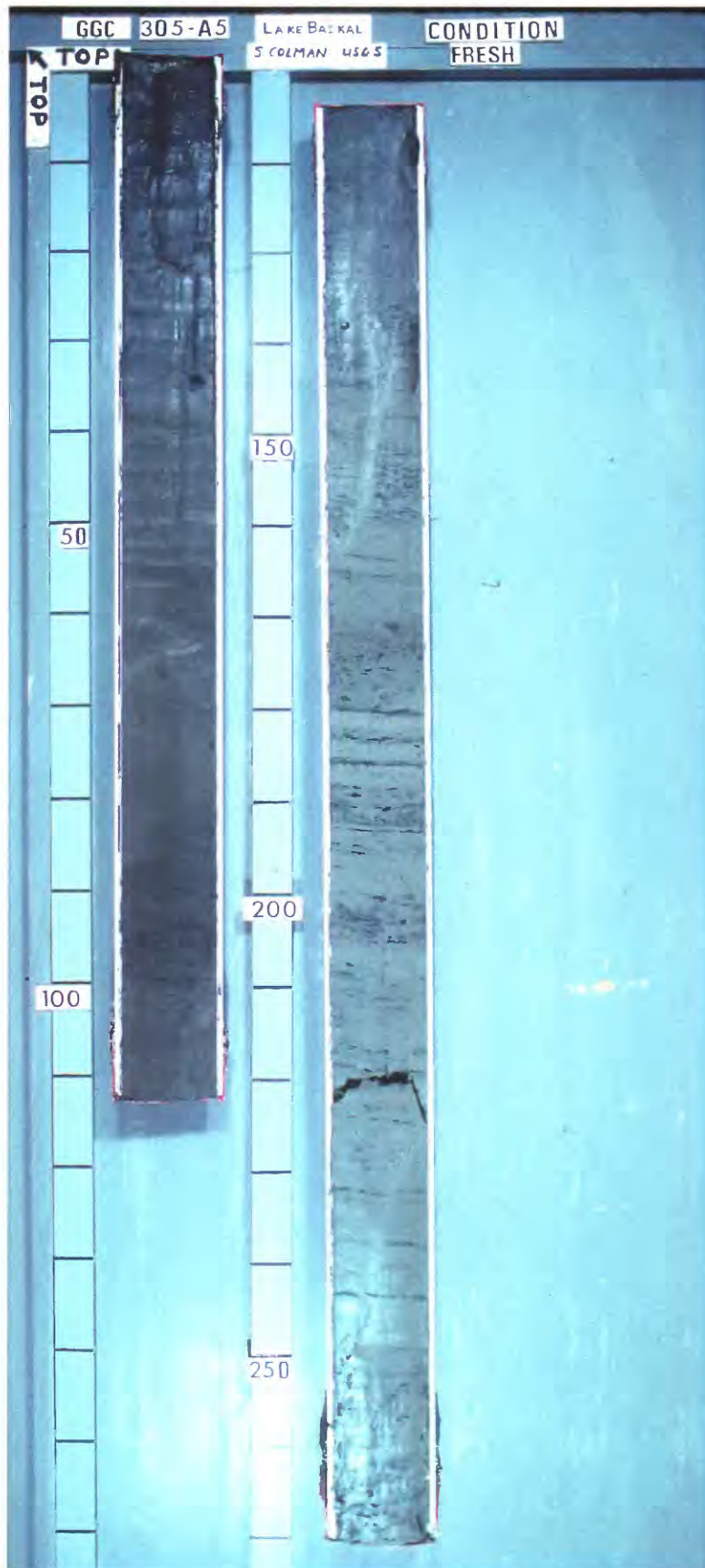
CORE 305-A5

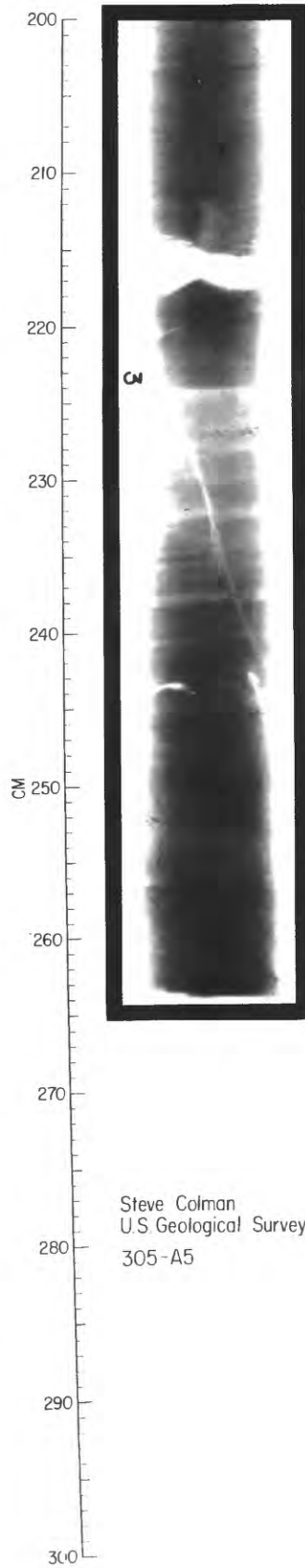
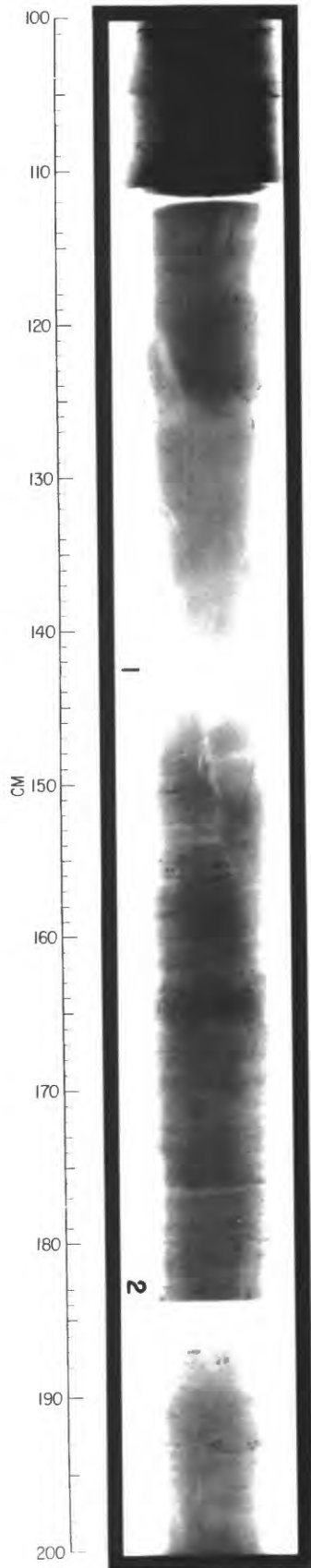
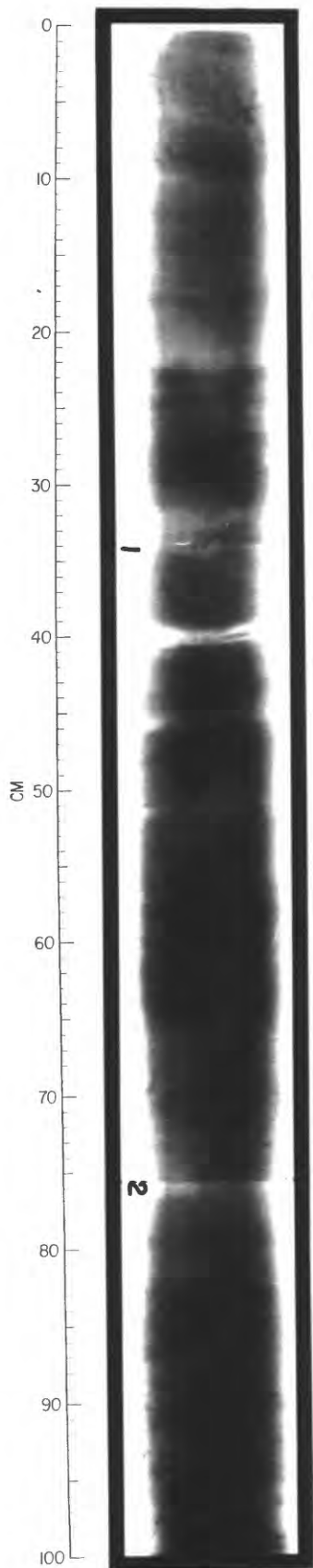


0-134 Mud, dark olive gray (5Y3/2), massive. Silt rich near top of unit, scattered sand throughout, and more sand below 40 cm. Diatomaceous layers 39-43 cm. Possible burrow structure 100-158 cm.

134-263 Mud, olive gray (5Y4/2), less gray near base of unit (5Y4/3), very gradational color contact at top. Faintly laminated throughout, with scattered sand through upper half of unit. Scattered nodules and orange oxidized streaks. Burrow or crack appears in x-ray at 220-244 cm. 1-2 mm thick silt laminae at 225-238 cm.

263 Base of core.

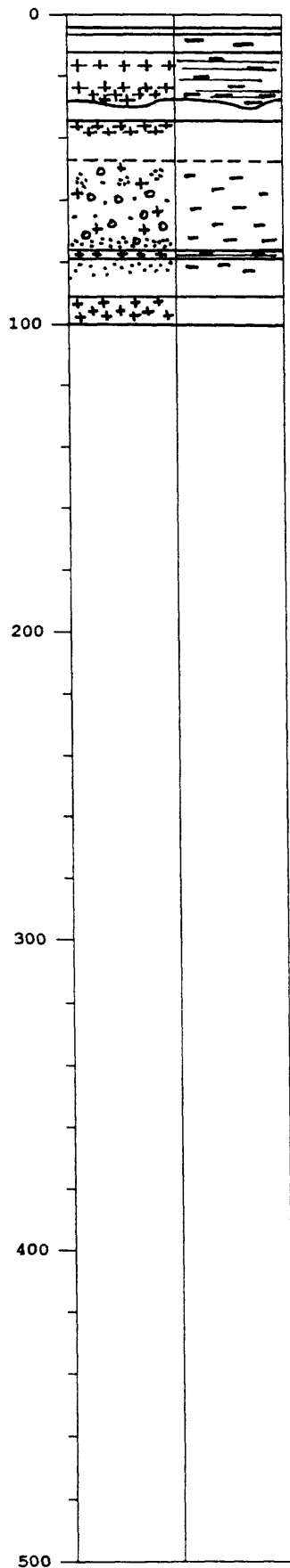




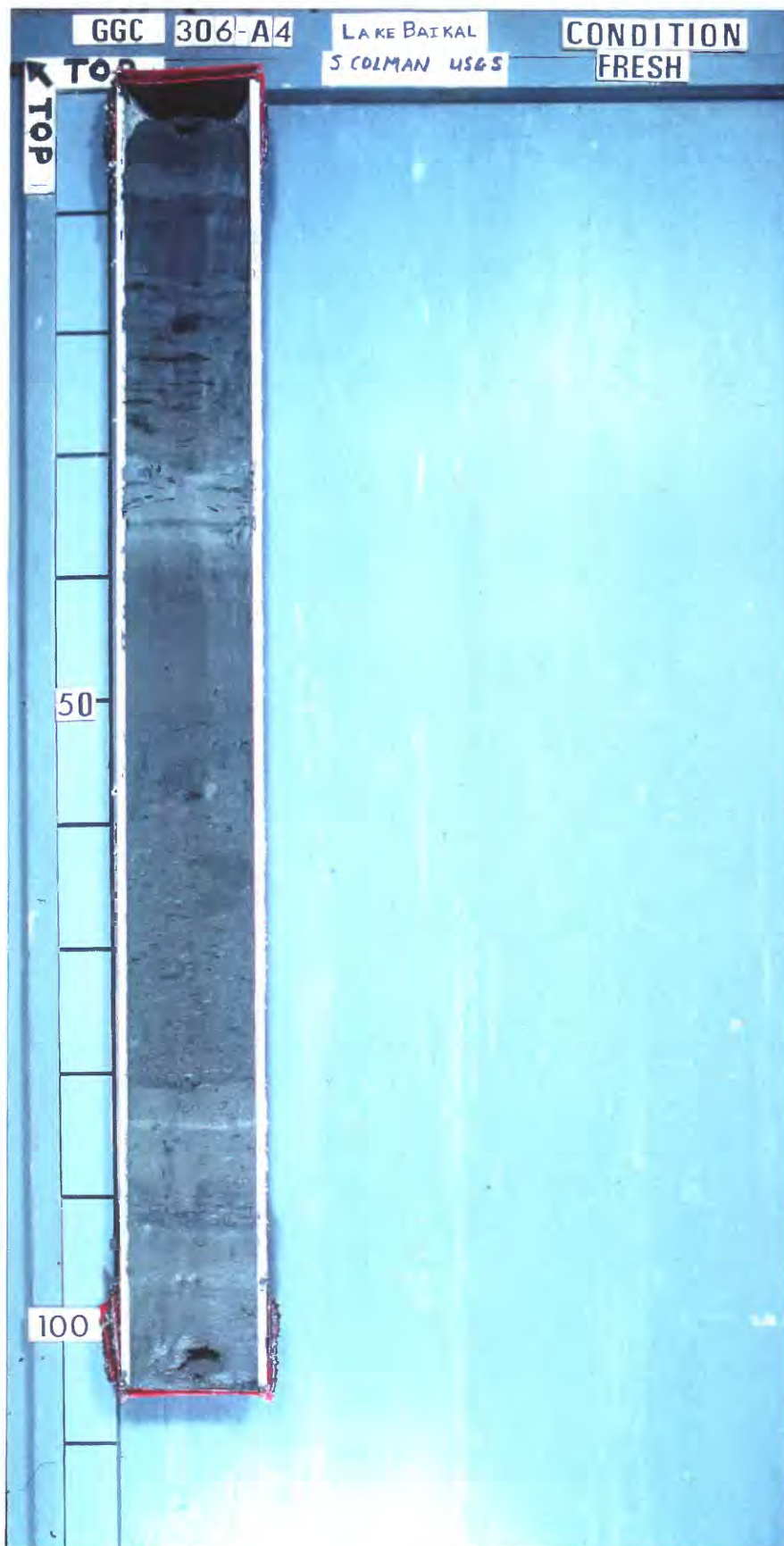
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305-A5

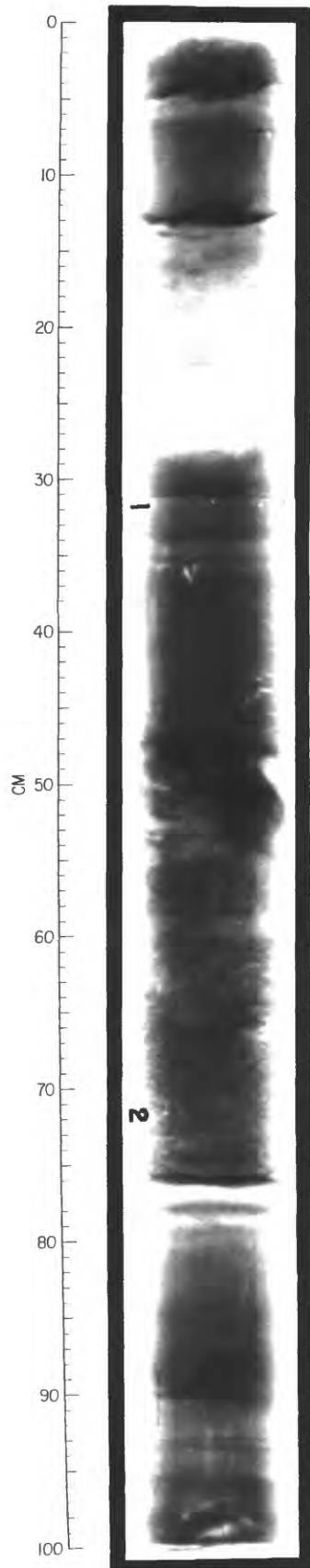
DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 306-A4



- 0-4 Mud, very dark olive gray (5Y3/1), massive, except for black crust with organic fragments at surface, organic fragments at base.
- 4-6 Mud, dark olive gray (5Y3/2), massive.
- 6-12 Mud, very dark olive gray (5Y3/1), massive. Very few orange streaks.
- 12-27 Mud, dark olive gray (5Y3/2), with dark grayish brown laminae (2.5Y3/2). Orange streaks and diatomaceous layers, both more common towards the base of the unit.
- 27-34 Mud, olive gray (5Y4/2), massive. Band of lighter olive gray (5Y5/2) at top.
- 34-47 Mud, dark olive gray (5Y3/2), massive, except for diatomaceous laminae near the top of the unit.
- 47-76 Mud, dark olive gray (5Y3/2), common soft clay clasts of lighter olive gray (5Y4/2). Gradational contact at top. Scattered sand throughout, with sand pockets at 50-55 cm, and a sandy layer at the base of the unit. Abundant orange streaks. Slightly diatomaceous.
- 76-79 Mud, dark olive gray (5Y3/2), laminated near base. Diatomaceous layers and orange streaks.
- 79-91 Mud, olive gray (5Y4/2), massive. Scattered sand and orange streaks in the top half of the unit.
- 91-100 Mud, olive gray (5Y4/2), massive, though some lamination in x-ray. Diatomaceous.
- 100 Base of core.

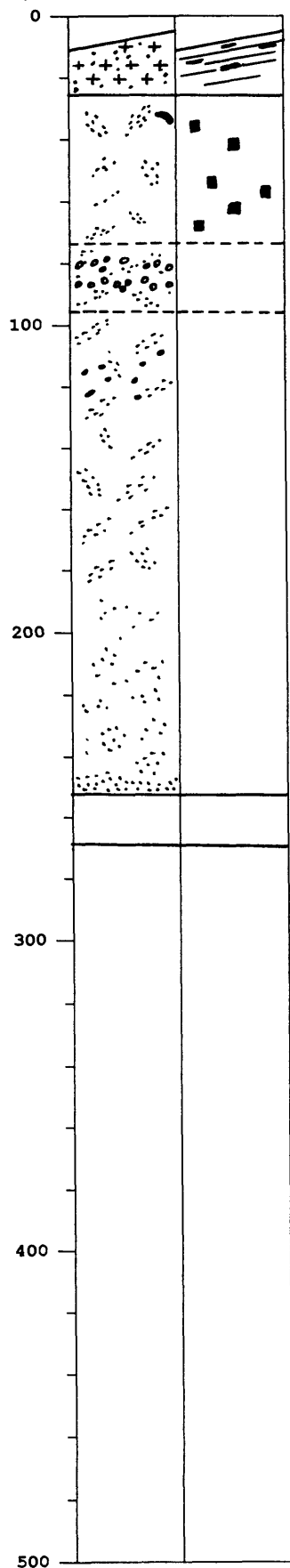




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306-A4

DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 307-A3



0-(4-11) Mud, dark grayish brown (10YR3/2), upper part disturbed. Olive brown band (2.5Y4/4) over 3 mm thick black crust (10YR2/1) at base.

4-24 Mud, olive gray (5Y4/2), faintly laminated. Diatomaceous laminae, brown streaks. Few scattered sand grains.

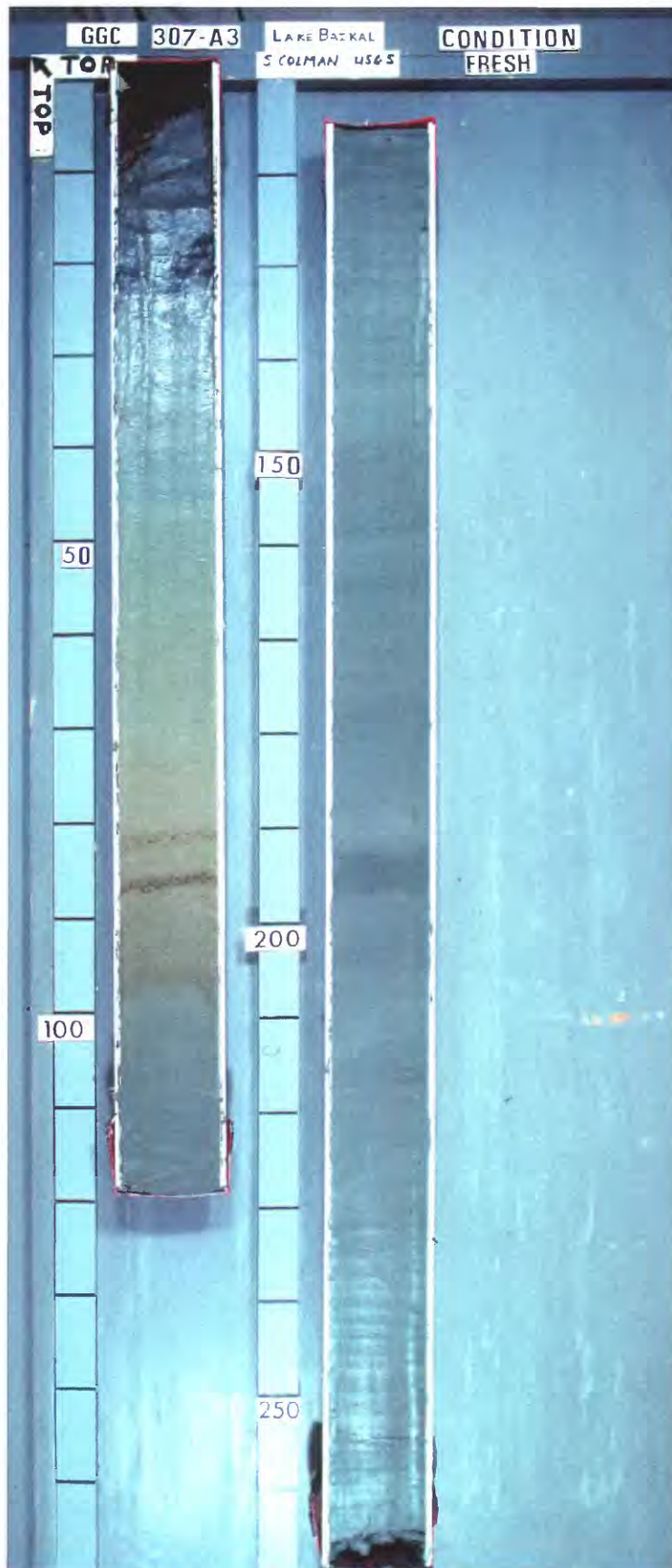
24-73 Mud, olive gray (5Y4/2), massive. Diagonal sand lenses scattered throughout unit. Brown mottles. Dark clast in x-ray at 31-35 cm.

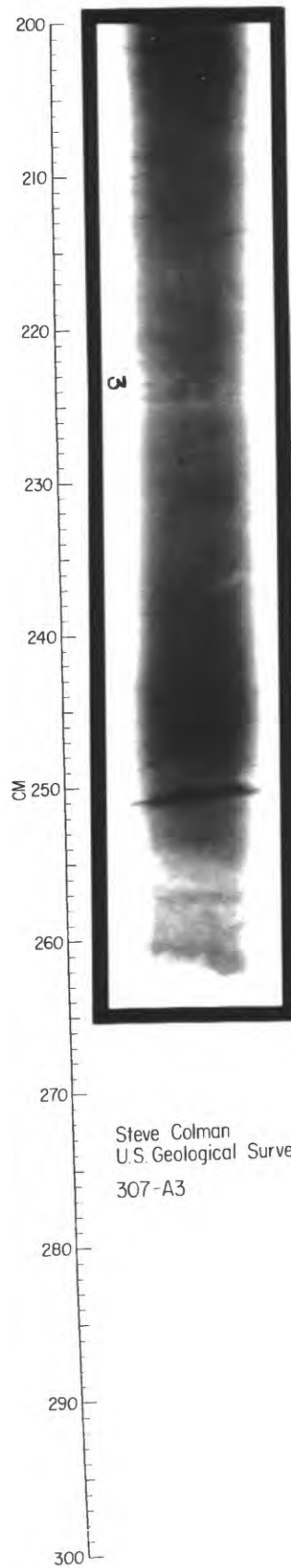
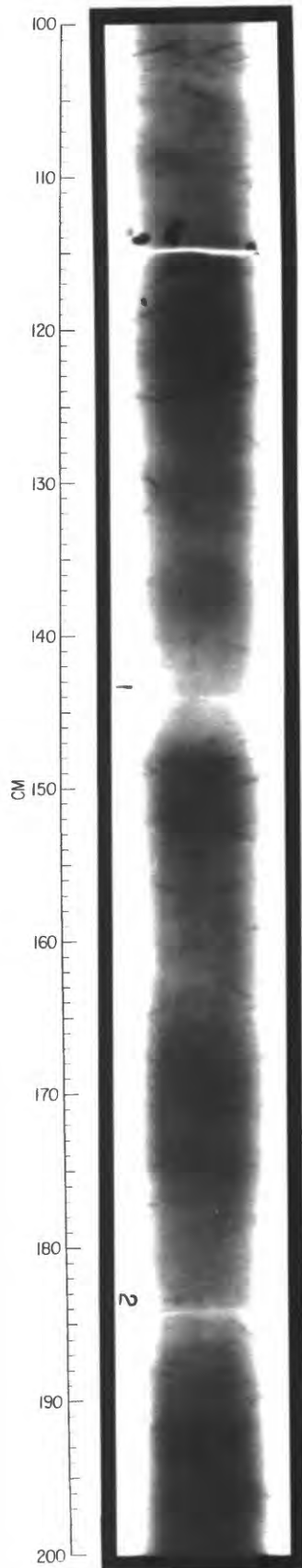
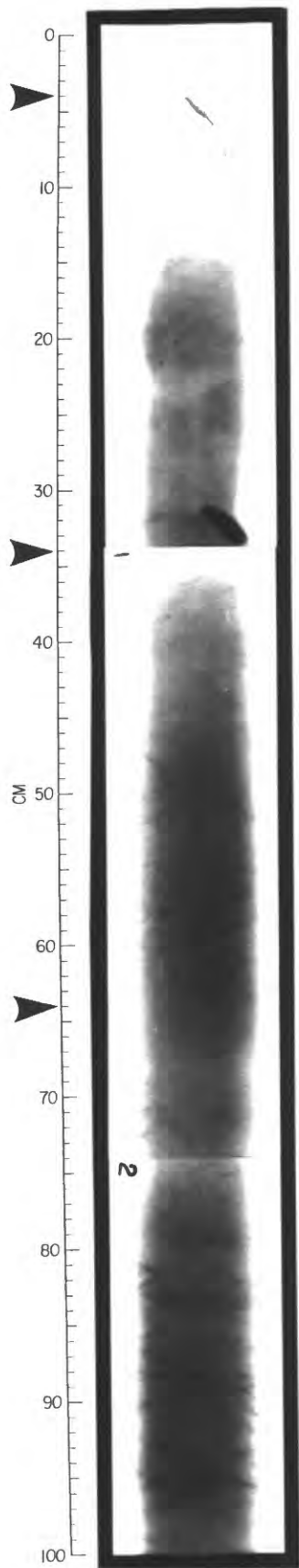
73-95 Mud, olive (5Y4/3), massive. Scattered sand lenses. Two layers of silt/fine sand clasts at 80 and 85 cm. Gradational contacts at top and bottom.

95-251 Mud, dark greenish gray (5GY4/1), massive. Small, dark clasts in x-ray at 112-121 cm. Lenses of sand in diagonal pattern above 190 cm, more scattered below. (Grayer) dark greenish gray band (5Y4/1) at 194-197 cm, harder and stiffer than rest of unit. 1-2 mm of sand at base of unit.

251-268 Mud, dark greenish gray (5Y4/1), massive. More gray, stiff than overlying unit.

268 Base of core.

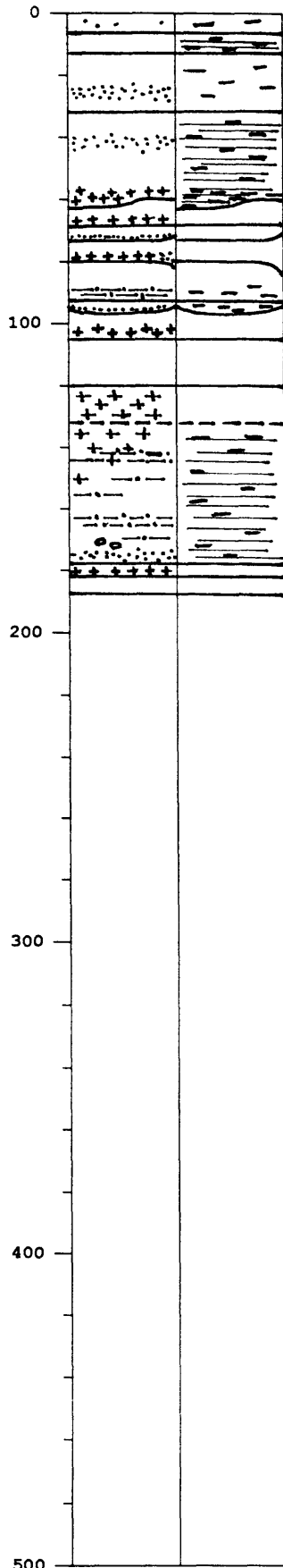




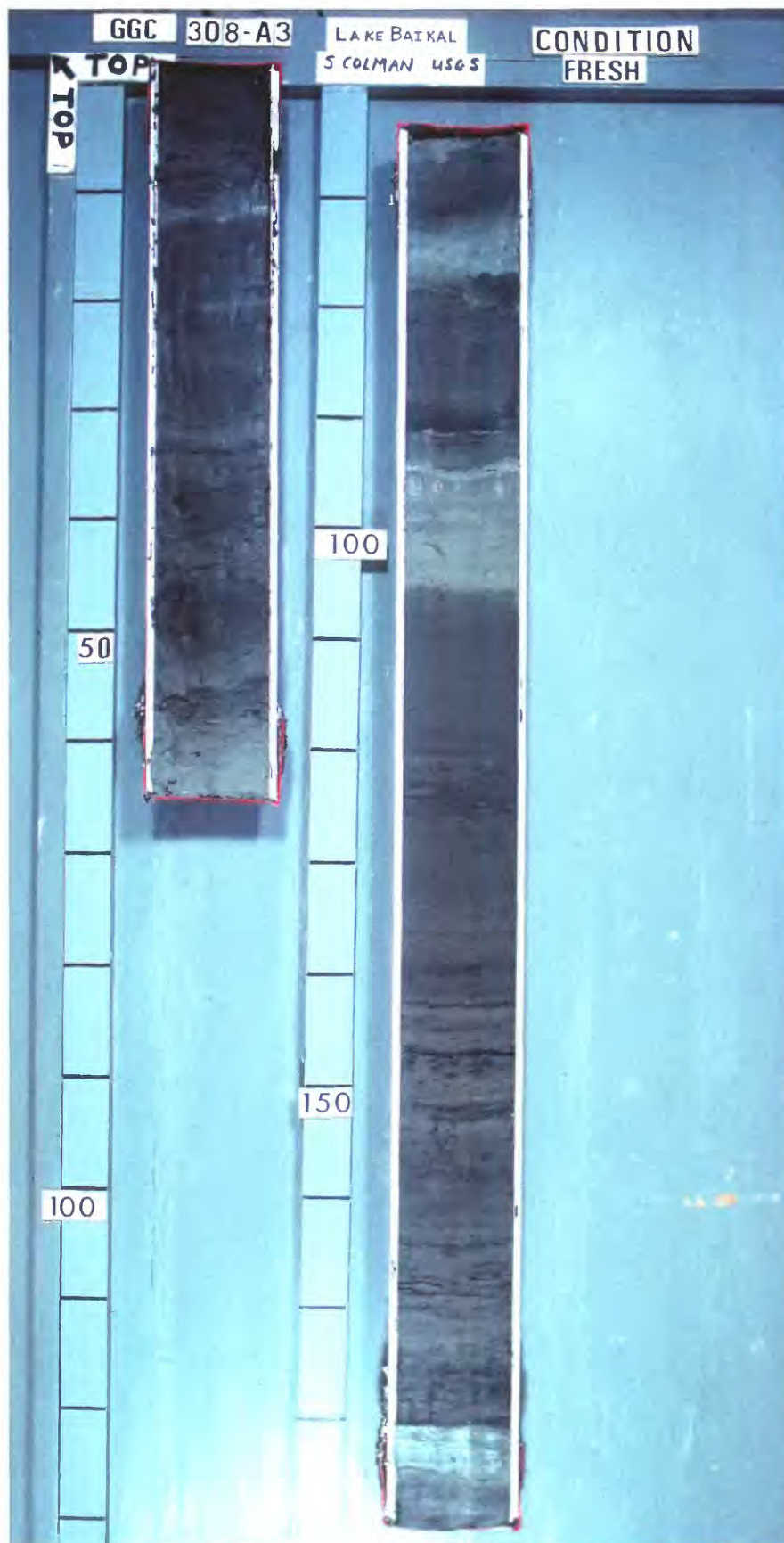
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307-A3

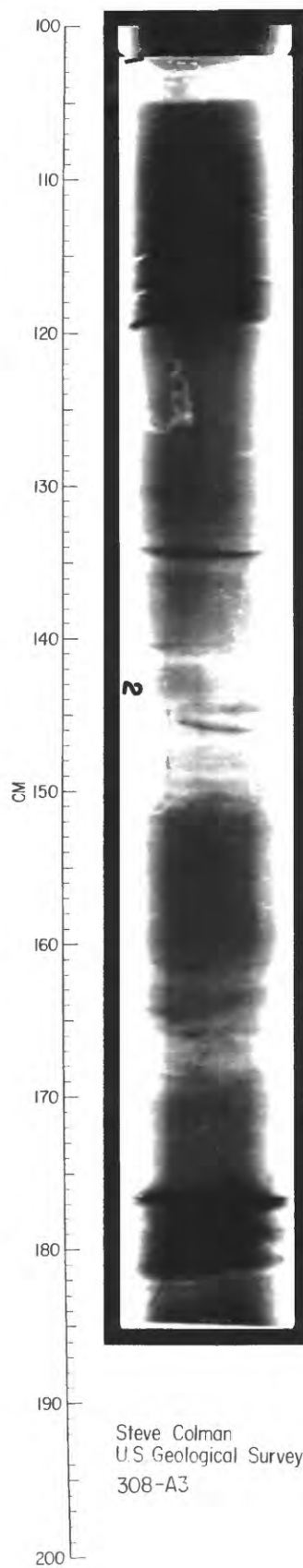
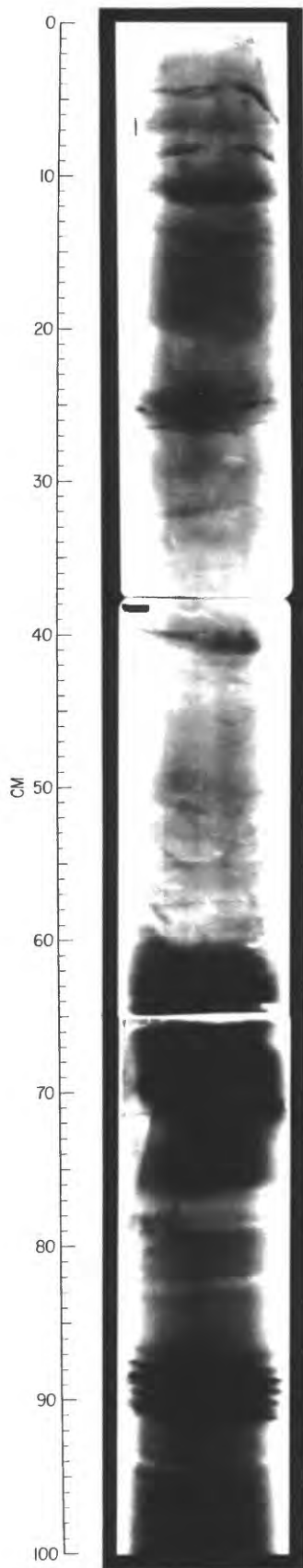
DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 308-A3



- 0-7 Mud, very dark olive gray (5Y3/1), massive. Few coarse sand grains, few scattered orange streaks.
- 7-14 Mud, dark olive gray (5Y3/2), with bands of more clay rich olive gray mud (5Y4/2). Few scattered orange streaks.
- 14-31 Mud, very dark gray (5Y3/1), massive. Micaceous sandy zone 24-27 cm. Few scattered orange streaks.
- 31-62 Mud, dark olive gray (5Y3/2), finely laminated. Olive gray bands throughout. Very dark gray streaks (5Y3/1) at 57-62 cm. Scattered orange streaks. Fine micaceous sandy zone at 40-42 cm. Diatomaceous at base.
- 62-67 Mud, olive gray (5Y4/2), massive. Diatomaceous at base.
- 67-73 Mud (67-70 cm), micaceous sand (70-73 cm), dark olive gray (5Y3/2), massive.
- 73-80 Mud, olive gray (5Y4/2), massive. Dark olive gray sand pocket (5Y3/2) at 79-81 cm. Diatomaceous at base.
- 80-92 Mud, dark olive gray (5Y3/2), massive. Micaceous sandy silt and orange streaks at base.
- 92-95 Mud, dark olive gray (5Y3/2), massive. Orange streaks throughout. Fine sand layer at base.
- 95-105 Clay, olive gray (5Y4/2), massive. Lighter band at top (5Y5/2). Diatomaceous mud at 103-105 cm.
- 105-120 Mud, dark olive gray (5Y3/2), massive.
- 120-133 Mud, dark olive gray (5Y3/2), massive. Diatomaceous.
- 133-178 Mud, dark olive gray (5Y3/2), finely laminated with very dark gray silt (5Y3/1). Gradational contact at top. Olive gray and orange streaks. Micaceous silt throughout. Diatomaceous layers more abundant near top. Two silt clasts at 173-175 cm. Fine micaceous sand layer at base.
- 178-182 Clay, olive gray (5Y4/2), massive. Diatomaceous at base.
- 182-187 Mud, dark olive gray (5Y3/2), massive.
- 187 Base of core.

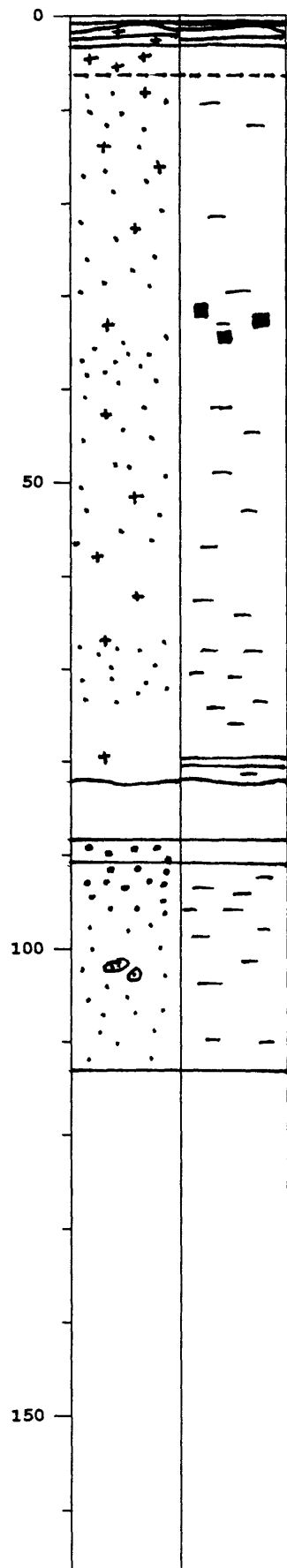




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308-A3

DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 316 TW3



- 0-3 Silt, banded, generally dark brown (10YR3/2, 10YR2/2, 10YR3/3, 2.5Y4/2). Bottom of unit somewhat crusty. Slightly diatomaceous.
- 3-6.5 Mud, olive gray (2.5Y4/2), massive. Diatomaceous.
- 6.5-82 Mud, dark olive gray (5Y3/2), nearly massive. Fine black streaks increase to 76 cm, fewer to bottom. Diatomaceous. Mottles 31-34. Olive gray (5Y4/2) band near bottom. Scattered fine sand 7-30, 35-59, 67-73.
- 82-87.5 Mud, gray (5Y5/1), massive.
- 87.5-91 Mud, greenish gray (5GY5/1), nearly massive. Small nodules 88-95. Slightly stiffer and bluer than adjacent units.
- 91-113 Mud, gray (5Y5/1), nearly massive. Fine black streaks decrease with depth. Scattered fine sand; small sandy black pockets at 101 and 102.
- 113 Base of core.

VERE 91



316-BC1 0-38



321-BC1 0-23



331-BC1 0-29

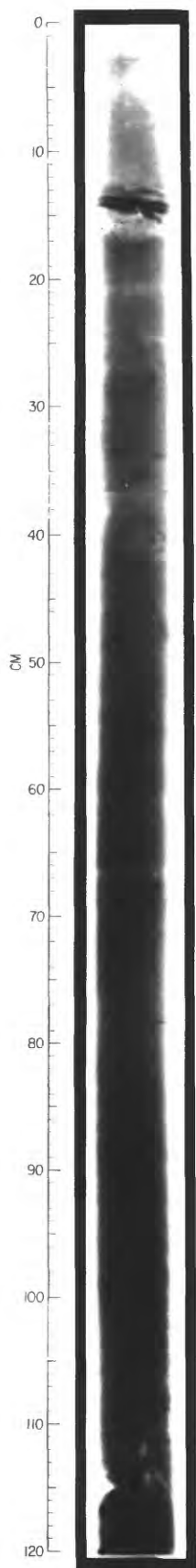


333-BC1 0-31

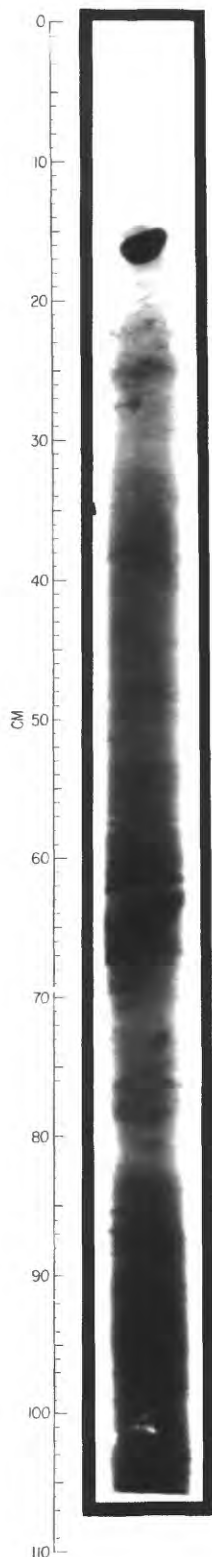


VEHICLE NAME		VEHICLE TYPE		CONDITION	
VEHICLE NAME		VEHICLE TYPE		FRESH	
SEC 1	400	371-509			
SEC 2	226-371			300	
SEC 3	100	81-226			200
SEC 4	0-81				
PILOT	0-113				100

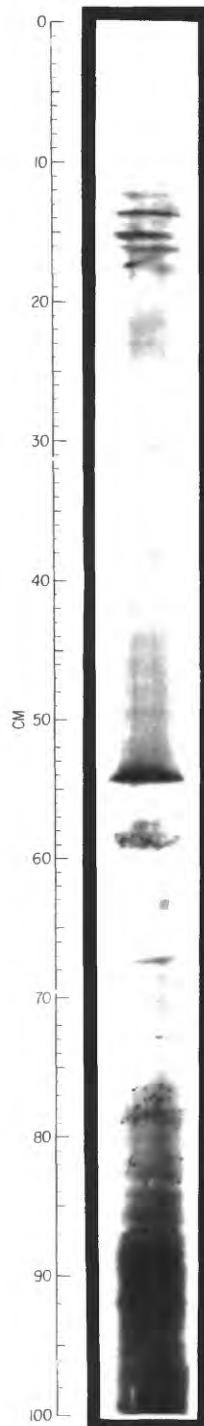
VERE 91
333 - TW2
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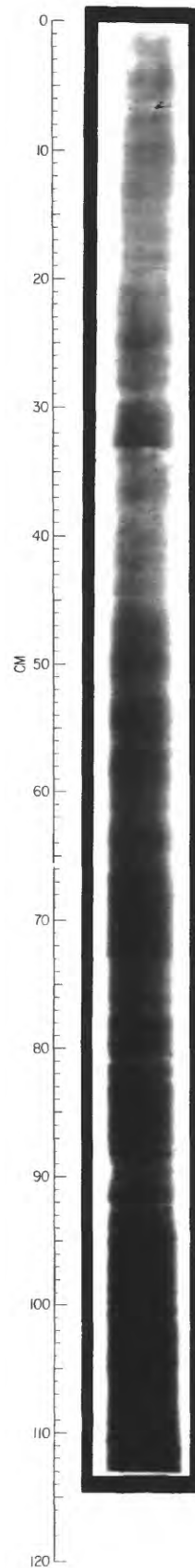
VERE 91
331 - TW1
S. M. Colman
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VERE 91
321 - TW2
S. M. Colman
U.S. Geological Survey

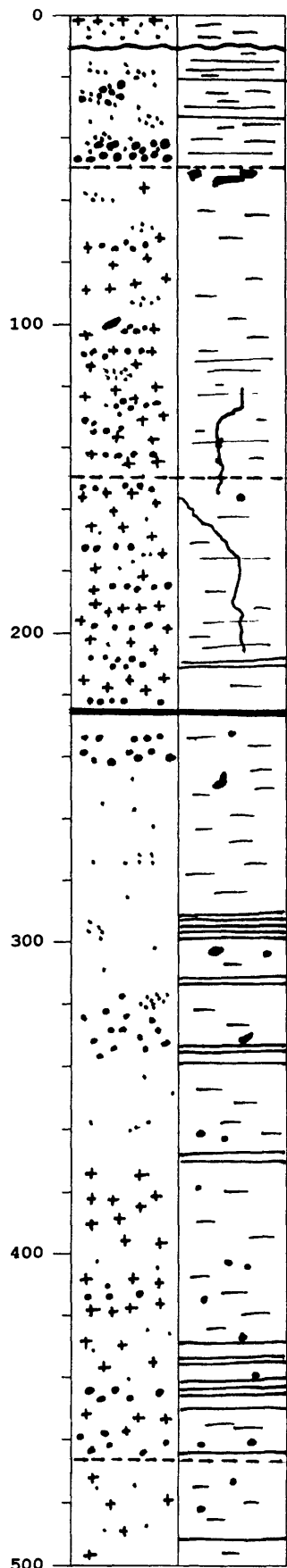


VERE 91
316 - TW3
S. M. Colman
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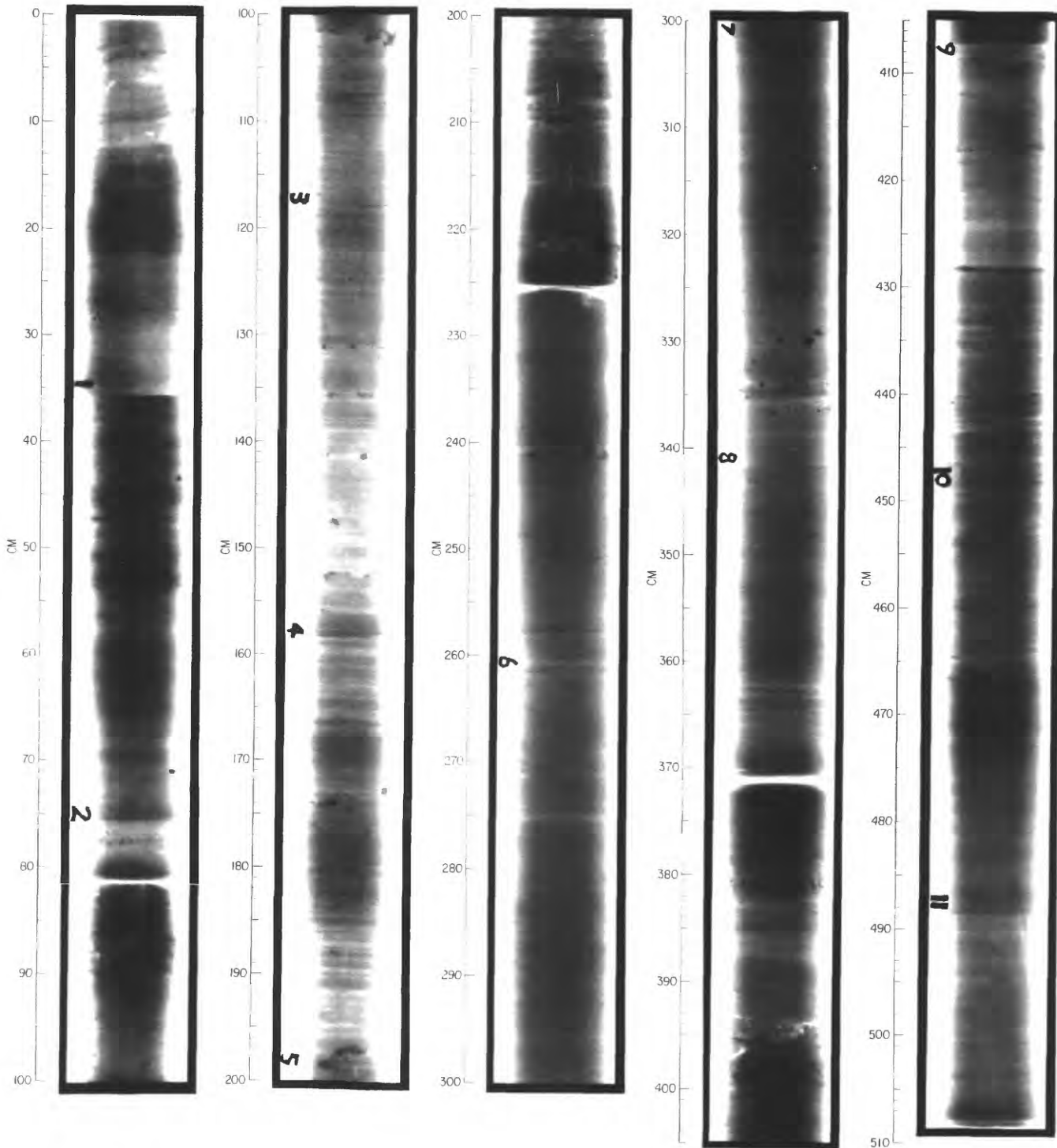


DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 316 PC3



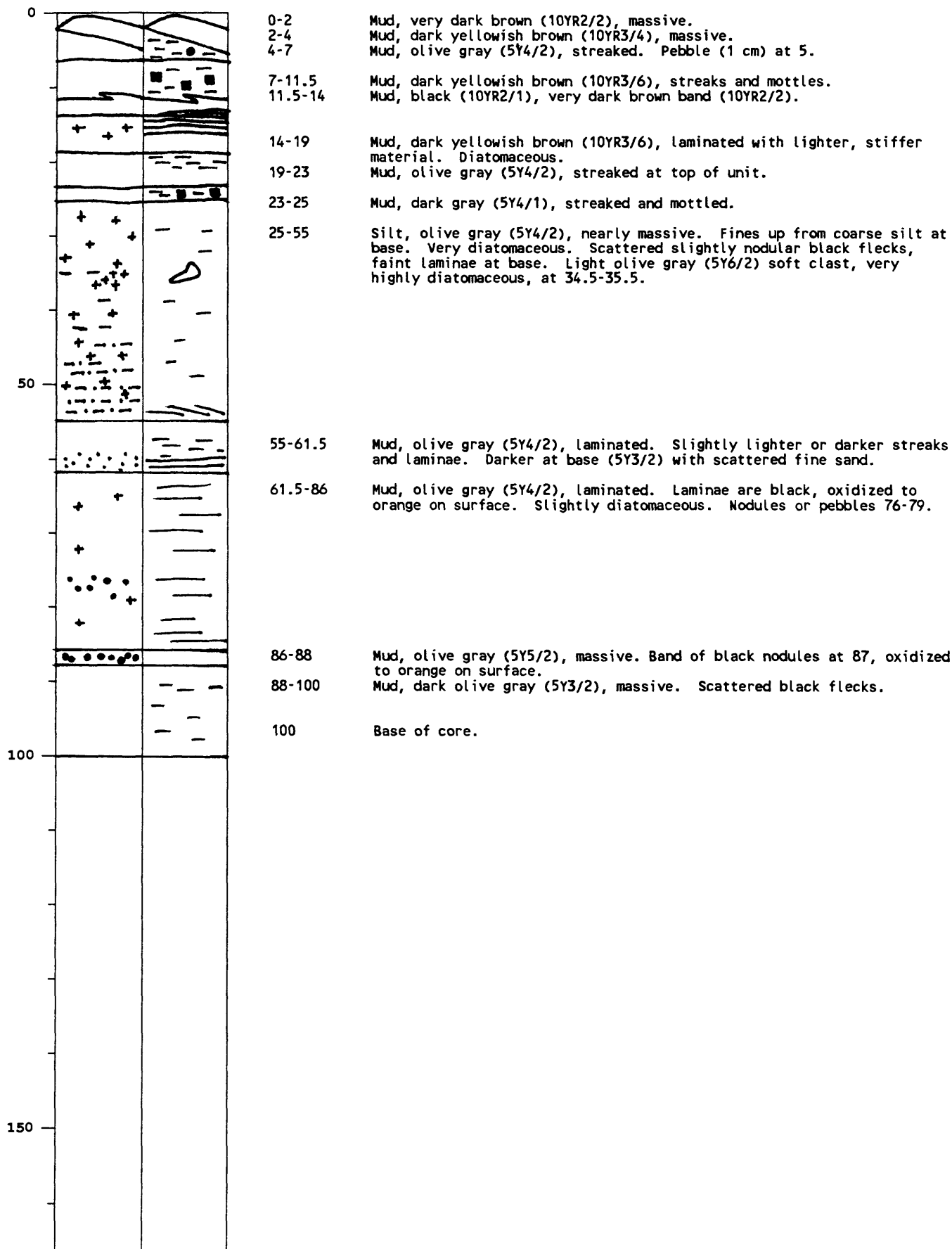
- 0-11.5 Mud, dark olive gray (5Y3/2), nearly massive. Diatomaceous. Fine sand grains and fine black streaks scattered throughout. Slightly wavy lower contact.
- 11.5-50 Mud, dark greenish gray (5GY4/1), somewhat laminated. Fine sand grains and subparallel lenses throughout. Major iron monosulfide laminae at 20.5 and 33.5; minor ones at 16, 18.5, 29, 43.5; streaks scattered throughout. Numerous small nodules at 28, 43, 46-48.
- 50-149 Mud, dark greenish gray (5GY4/1), nearly massive. Very gradational upper and lower contacts. Few scattered sand lenses and faint orange laminae. Diatomaceous, especially 70-149. Subparallel, blocky regions, orange on surface, black and very stiff inside, at 51-55. X-rays show clear, narrow laminations 105-210, with bands of small nodules at 77, 102, 108, 124, 131, 136, 141, 152, 174, 183, 197. Crusty black clast at 100. Faint vertical burrow-like feature 121-155, darker than surrounding mud.
- 149-466 Mud, dark greenish gray (5GY4/1), faint, nodular orange laminae common. Small vivianite clasts increase toward bottom of unit. Scattered fine sand grains and lenses throughout. Diatomaceous 149-225 and 373-466. Burrow-like feature 156-206, fainter than 121-155. Coarse nodule bands at 208, 210, 221, 234, 238-241, 321-338, 417, 440-447, 459-464. Missing one cm from between core sections at 225-226. Pebbles at 247, 302, 336.5; fine sand lens at 320.
- 466-508 Mud, dark greenish gray (5GY4/1), nearly massive. Few scattered black streaks and faint laminae; rare sand grains and tiny vivianite clasts. Somewhat diatomaceous.
- 508 Base of core.



VERE 91
316 - PC3
S. M. Colman
U.S. Geological Survey

DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 321 TW2



SEC

TOP

FRESH

SEC	3	0-98
PILOT		0-101

100 SEC 2 98-244

SEC 1 244-380

300

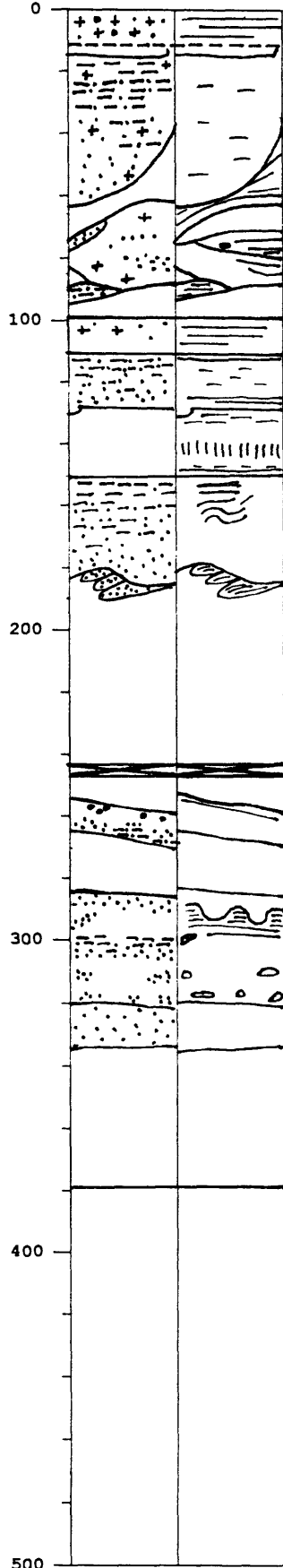
200

100

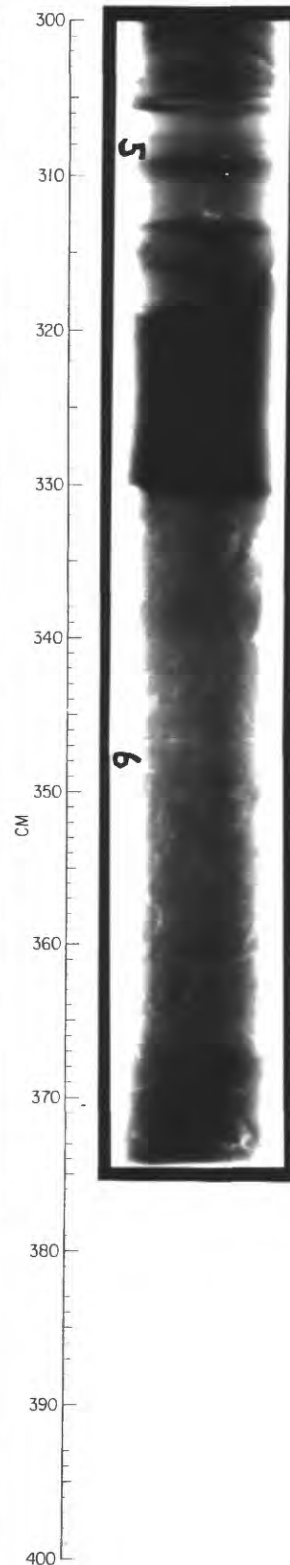
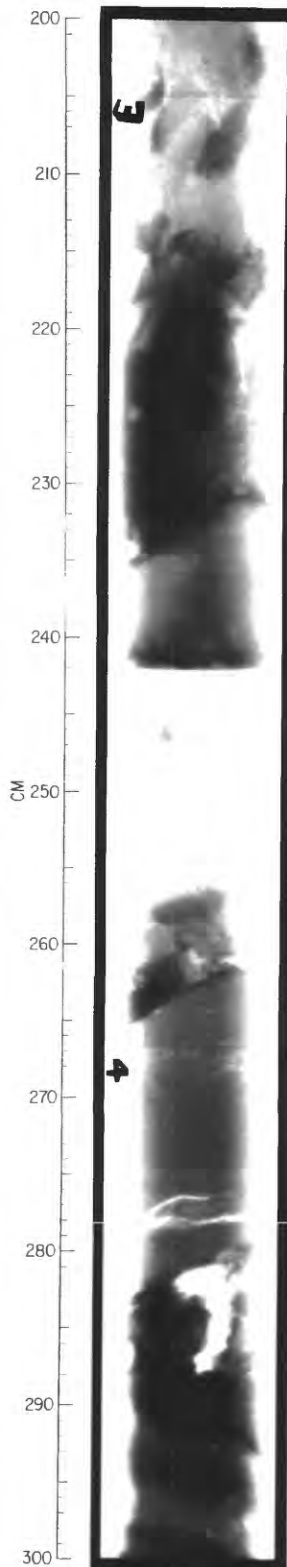
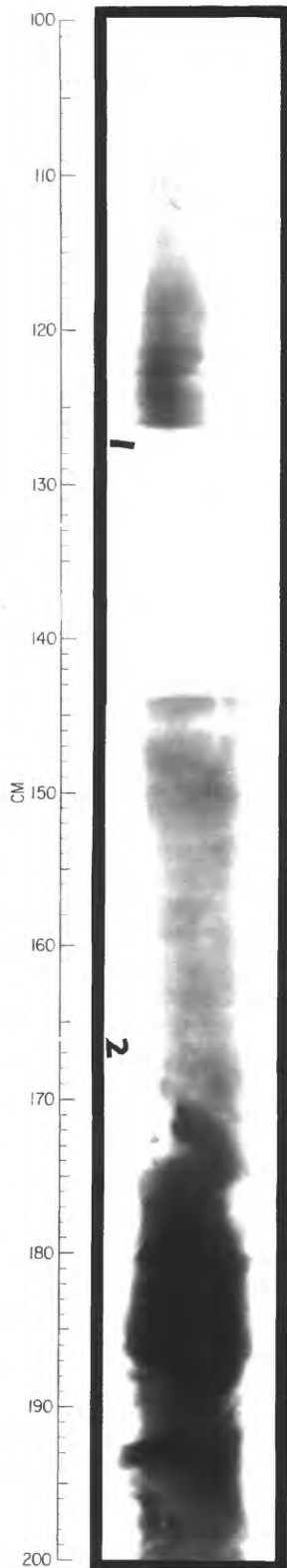
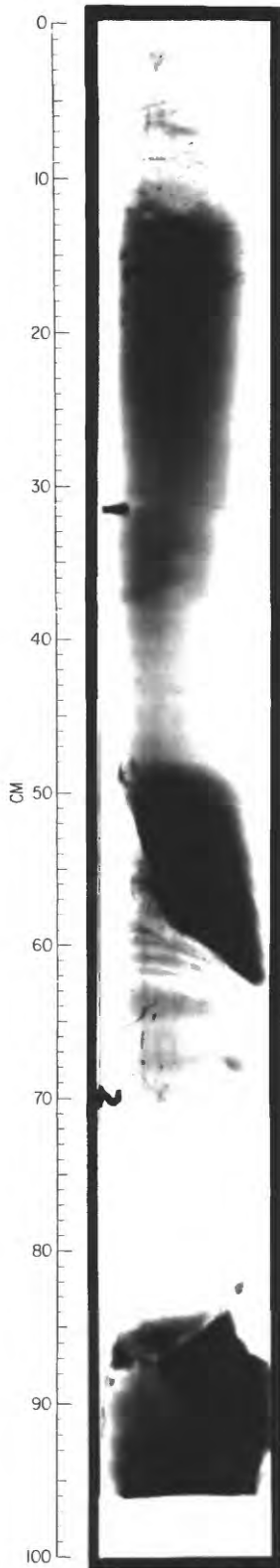


DEPTH LITHOLOGY STRUCTURE
(CM)

321 PC2



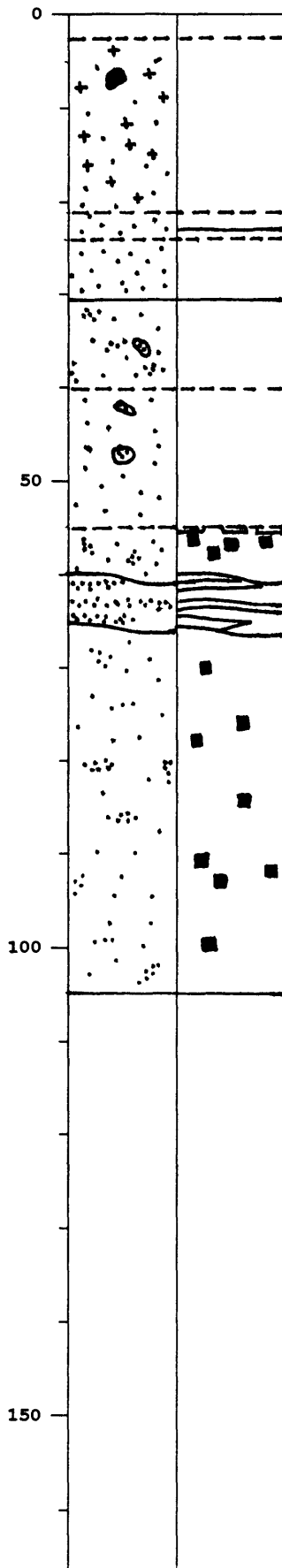
- 0-11.5 Mud, dark olive gray (5Y3/2), irregular lamination and color bands. Fine sand, small nodules. Diatomaceous.
- 11.5-14 Mud, greenish gray (5GY5/1), massive.
- 14-63.5 Fine micaceous sand at base, fining up to silt at top, dark olive gray (5Y3/2), nearly massive turbidite. Some tiny black streaks. Slightly diatomaceous.
- 63.5-73 Mud, olive gray (5Y4/2), laminated, but disturbed. Faintly grayer band at bottom of unit.
- 64.5-87 (Measured on right) Mud, olive gray (5Y4/2), laminated in center. Sandy area at left of unit. Very dark green laminae, becoming orange at bottom. Some fine sand in laminae. Small cavity 75.5. Diatomaceous.
- 83-87 (Unit on left) Mud, gray (5Y5/1), massive.
- 87-93.5 (Unit on left) Silty sand, black (5Y2.5/2), laminated.
- 93.5-97 Mud, olive gray (5Y4/2), massive.
- 97-98 Missing between core sections.
- 98-111 Mud, greenish gray (5GY5/1), orange-oxidized bands, with coarse particles and soft black clasts. Slightly diatomaceous.
- 111-128 Fine micaceous sand at base, fining up to silt at top, dark gray (5Y4/1), laminated turbidite. Some tiny black streaks.
- 128-148 Mud, greenish gray (5GY5/1), nearly massive. Few streaks at top. Disturbed 138-143. Darker at bottom of unit, with fine laminae and whitish streaks.
- 148-183 Fine sand at base, fining up to silt at top, dark gray (5Y4/1), nearly massive turbidite. Lighter, wavy bands 148-160. Disturbed, with some cavities. Well-laminated, fine sand (rip-up) clast at 180.
- 183-254 Heavily disturbed. Well-laminated, fine sand (rip-up) clast at 189. Ranges from dark gray (5Y4/1), clean medium sand to greenish gray (5GY5/1) mud. 243-246.5, missing between core sections.
- 254-265 Mud, greenish gray (5GY5/1), nearly massive. Dark greenish gray (5GY4/1) below 258. Fine laminae and small nodules near top; fine sand lenses in center, coalescing with depth to all medium sand with silty blebs.
- 265-283 Mud, greenish gray (5GY5/1), massive.
- 283-320 Mud and sand, greenish gray (5GY5/1), mixed. Pockets, lenses, and layers of medium sand, interspersed with mud banded with olive gray (5Y4/2). Narrow band of fining-up mud 298-307. Slightly disturbed.
- 320-335 Sand, dark greenish gray (5GY4/1), massive.
- 335-379 Mud, dark greenish gray (5GY4/1), massive. Slightly disturbed.
- 379 Base of core.



VERE 91
321 - PC2
S. M. Colman
U.S. Geological Survey

DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 331 TW1

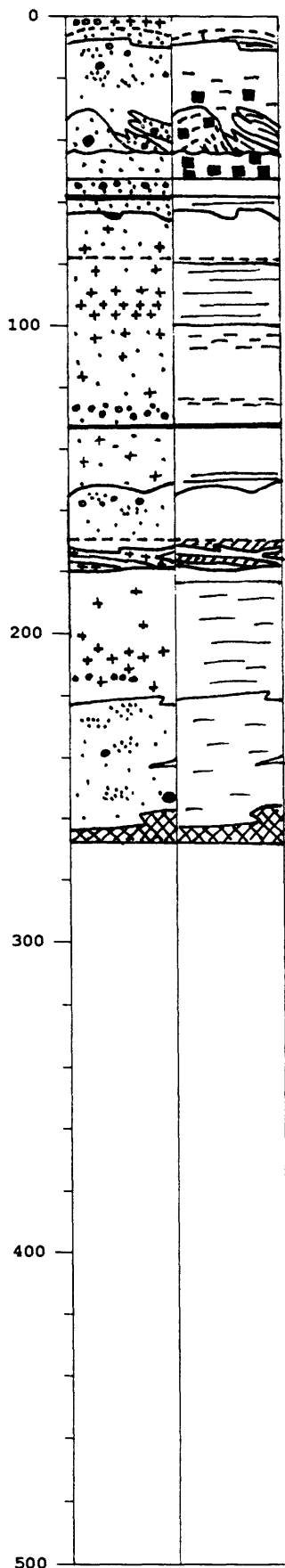


- 0-2.5 Mud, dark yellowish brown (10YR3/6), massive. Diatomaceous.
- 2.5-21 Mud, olive gray (5Y4/2), massive. Highly diatomaceous. Large pebble 5-7 cm. Some fine sand.
- 21-24 Mud, dark gray (5Y4/1), nearly massive. Lamina at 23. Scattered fine sand.
- 24-30.5 Mud, gray (5Y5/1), massive. Abundant fine sand.
- 30.5-40 Mud, olive (5Y4/3), massive. Abundant fine sand, few lenses. Distinct lens at 36.5.
- 40-55 Mud, light olive brown (2.5Y5/4), massive. Scattered sand grains, two distinct lenses.
- 55-60 Mud, grayish brown (2.5Y5/2), mottled 55-58 only. Discontinuous lighter band at top may be residual softened crust. Sand grains and small lenses throughout.
- 60-65 Mud, olive brown (2.5Y4/4), with interbedded dark grayish brown (2.5Y4/2) medium to fine sand beds.
- 65-105 Mud, dark yellowish brown (10YR4/4), mottled. Abundant fine sand grains and lenses.
- 105 Base of core.

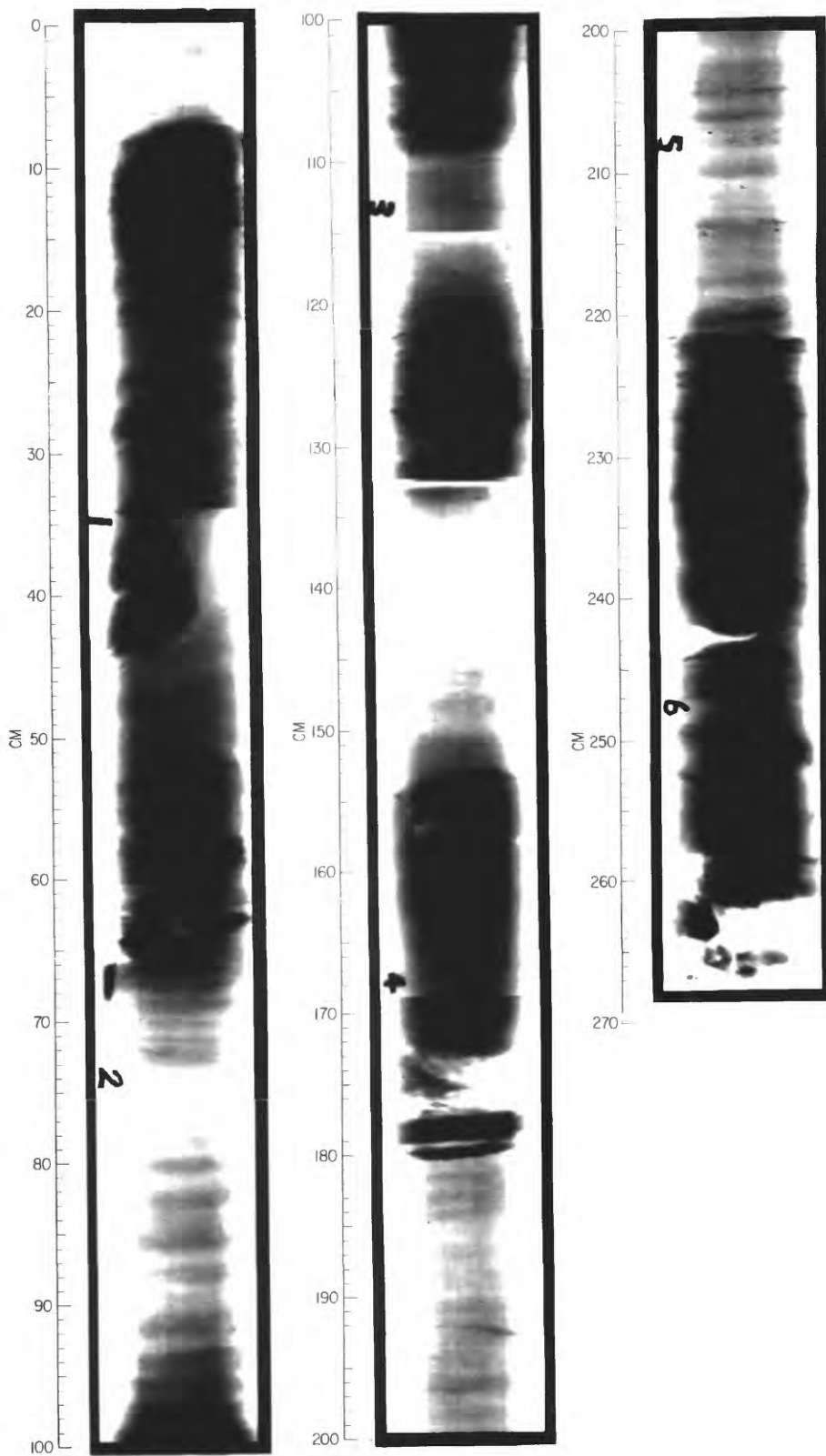


DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 331 PC1



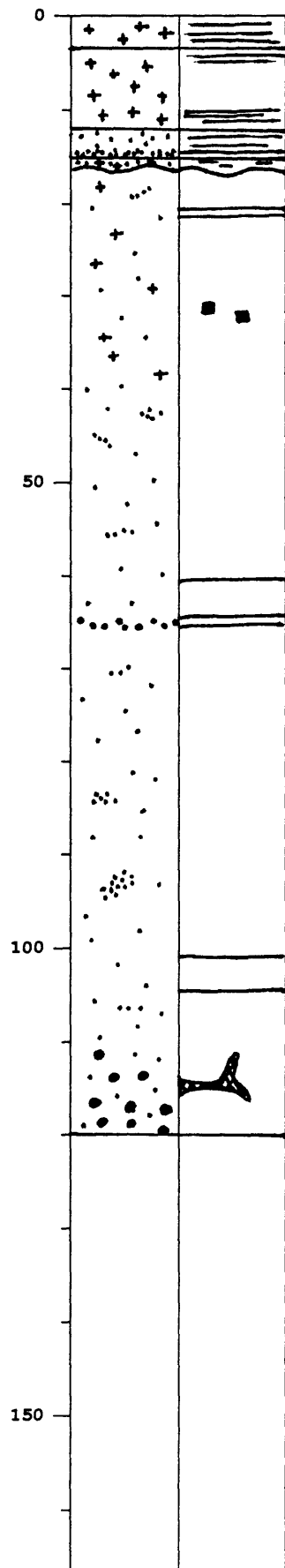
- 0-5 Mud, olive gray (5Y4/2), massive. Olive (5Y4/3) at extreme top; grayer (5Y5/1) band at 3-5 cm. Highly diatomaceous (30-50%). Small (<2mm) soft clasts at 3 cm appear to be nearly pure diatoms.
- 5-7 Mud, dark gray (5Y4/1), with gray (5Y5/1) bands. With depth, fine sand increases; diatom content decreases, especially in gray bands (<10%). Faint burrow-like structure 5.5-7.5 cm.
- 7-31 Mud, greenish gray (5GY5/1), massive. Color grades to olive gray (5Y5/2) at 11-15 cm, to grayish brown (2.5Y5/2) at 15-20, and to light olive brown (2.5Y5/4) near bottom of unit. Fine sand grains and lenses. Some coarse sand and small pebbles, decreasing toward bottom of unit. Large (5 mm) rounded pebble at 15. Dark streaks and mottles near bottom.
- 31-43 Heavily disturbed area. Left: mud, yellowish brown (10YR5/4), many dark mottles. Scattered fine sand, one 5mm angular pebble. Right: fine sand, dark grayish brown (2.5Y4/2), somewhat stratified, in tilted or slumped clasts. Some coarse sand and small pebbles.
- 43-52 Mud, yellowish brown (10YR5/4), with dark brown (10YR3/3) mottles. Scattered fine sand grains. Mottling increases to nearly 50% of area at base.
- 52-58 Mud, grayish brown (2.5Y5/2), massive. Coarse sand lenses and nodules, decreasing with depth.
- 58-63.5 Mud, light olive brown (2.5Y5/4), laminated. Scattered fine sand grains. Very dark brown, well-lithified crust at top. Large piece of similar-type crust in (or causing) disturbed area at base.
- 63.5-77 Mud, greenish gray (5GY5/1), massive. Scattered fine sand. Somewhat diatomaceous (~5%).
- 77-154 Mud, greenish gray (5GY5/1), faintly banded with subtle pink, green, and brown hues. Scattered fine sand throughout. Few distinct dark laminae. Highly diatomaceous (~50%) at 92.5; less (~10%) at 142. Scattered black streaks 102-106, 122-124. Small nodules at 127.5-129.
- 154-170 Mud, greenish gray (5GY5/1), massive. Scattered fine sand grains throughout; lenses near top of unit. Nodules 157-158.
- 170-179 Alternation of two materials. Shaded: mud, greenish gray (5GY5/1), massive. Unshaded: mud, light greenish gray (5GY7/1), massive. Highly diatomaceous (~50%). Sharp lower contact.
- 179-222 Mud, olive gray (5Y5/2), some laminae and subtle color bands. Distinct lamina at 182.5. Highly diatomaceous (~50%) at 209; appears coarser grained and less diatom rich toward bottom of unit. Small nodules at 214.
- 222-267 Mud, greenish gray (5GY5/1), massive. Abundant fine sand grains, lenses, and pockets; scattered dark streaks. Pebbles at 239.5 (5 mm), 251 (10 mm). Crack in core at 242.5. Disturbed 258-267.
- 267 Base of core.



VERE 91
331 - PC1
S. M. Colman
U.S. Geological Survey

DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 333 TW2



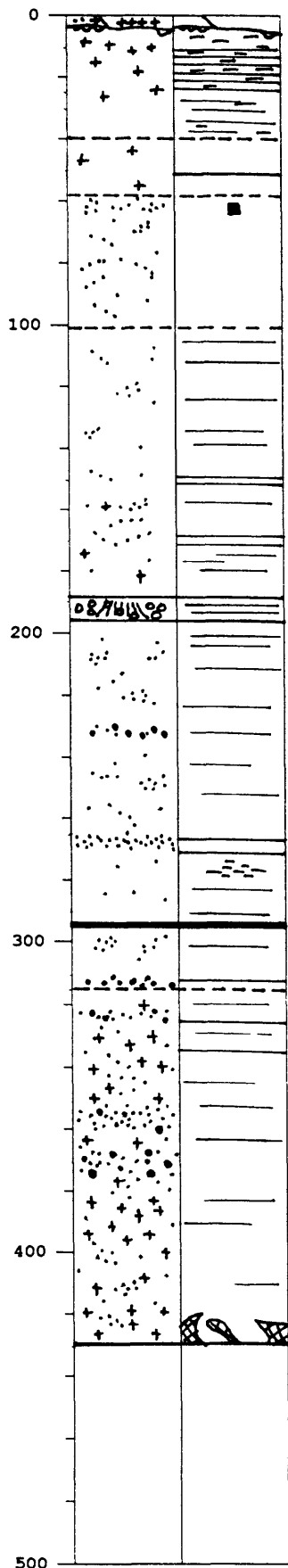
- 0-3 Mud, dark yellowish brown (10YR3/4), banded. Diatomaceous.
- 3-12 Mud, dark yellowish brown (10YR4/4), laminated. Fine laminae at top and bottom of unit only. Highly diatomaceous.
- 12-14.5 Mud, black (10YR2/1), faintly laminated. Scattered fine sand. Crumbly, sandy, strong brown (7.5YR5/6) crust at base, 1-2 mm thick.
- 14.5-16 Mud, olive gray (5Y4/2), nearly massive. Few streaks, scattered fine sand. Wavy lower contact. Diatomaceous.
- 16-120 Mud, greenish gray (5GY5/1), nearly massive. Slightly diatomaceous 16-40. Few bands of slightly lighter color; two brownish bands, one somewhat nodular at 66, the other at 20.5. Scattered fine sand grains and lenses. Mottles 31-32. Distinct sand lens at 93. Large nodules 110-120. Disturbed 112-115.

120 Base of core.

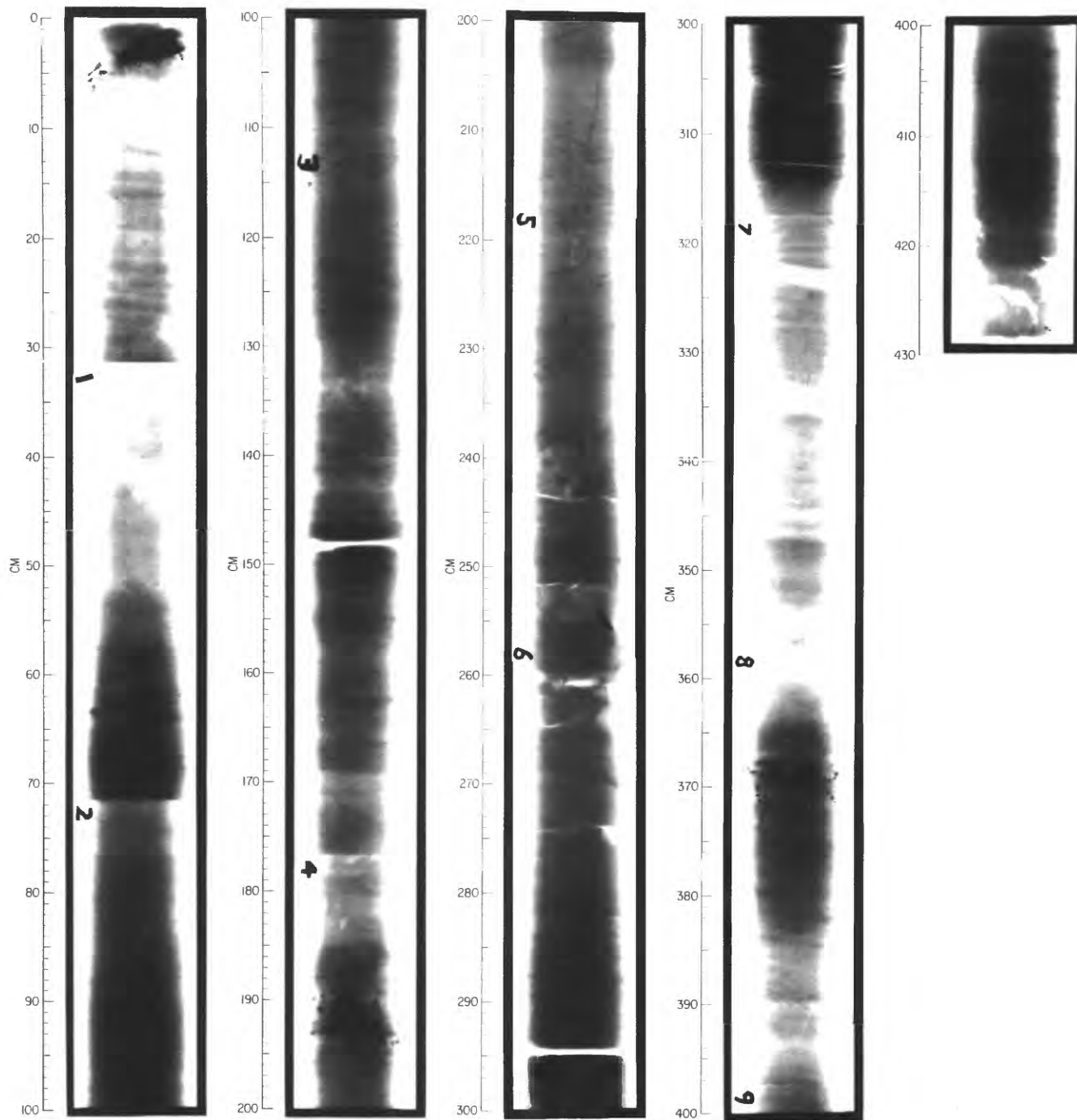


DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 333 PC2



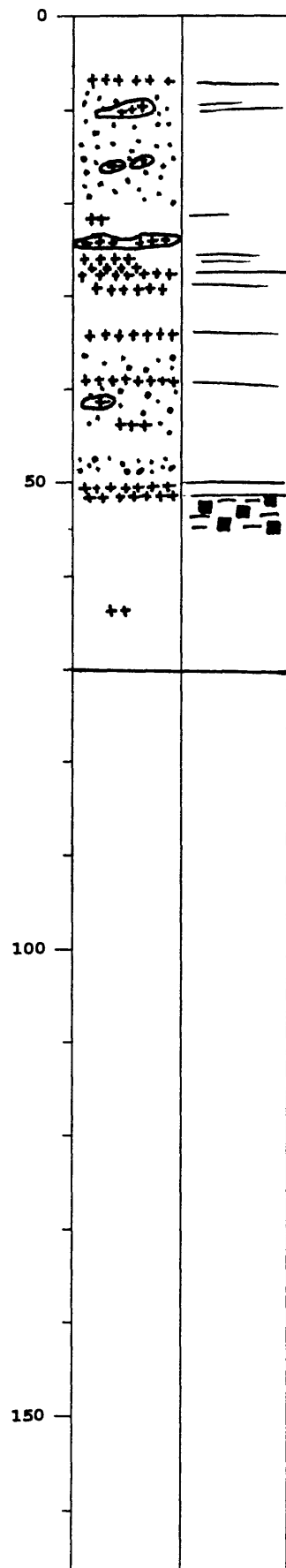
- 0-3 Left: mud, black (10YR2/1), massive. Scattered fine sand. Somewhat diatomaceous (~5%). Right: mud, dark yellowish brown (10YR3/6), massive, top slightly darker (10YR3/4). Very diatomaceous (30%). Pieces of granular, dark yellowish brown crust (10YR4/6) at base of unit.
- 3-40 Mud, olive gray (5Y4/2), banded with dark greenish gray (5GY4/1) clearly from 10 cm to 25, fainter to bottom. Black streaks decrease with depth. Diatomaceous.
- 40-58 Mud, greenish gray (5GY5/1), nearly massive. Somewhat diatomaceous. Stiff black band at 51.5, not diatomaceous, oxidized to orange on surface. X-ray shows fine sand lenses in diagonal pattern almost continuously from 55 cm to bottom of core.
- 58-101 Mud, greenish gray (5GY5/1), massive. Sparse, scattered sand; few fine lenses near top. Large black mottle 60-62.
- 101-189 Mud, dark greenish gray (5GY4/1), faintly banded with very slightly browner, stiffer material. Distinct bands at 149-150, 169-171. Scattered sand and lenses. Slightly diatomaceous from 150 to bottom of unit. A few black vertical cracks in this and lower units appear to be freezing injuries.
- 189-196 Mud, dark greenish gray (5GY4/1), banded. Many hollow vivianite nodules, some large, surround vertical cracks filled with vivianite.
- 196-315 Mud, greenish gray (5GY5/1), faintly banded with slightly browner, stiffer material; one clear band at 312-315 contains some fine nodules. Few nodules 230-232, some mottling 275-278. Many sand grains and lenses. Very sandy at 265-268. Segment missing between core sections at 294-295.
- 315-429 Mud, greenish gray (5GY5/1), banded. Lithology and structure same as overlying unit, except more distinct bands containing more nodules. Coarse sand or small nodules especially at 322, 355, 358; larger nodules 367-373. Fine black laminae 325, 334. Overall ~20% diatoms, decreasing to 5-10% 361-379 and 402-417. Disturbed 421-429.
- 429 Base of core.



VERE 91
333 - PC2
S. M. Colman
U.S. Geological Survey

DEPTH LITHOLOGY STRUCTURE
(CM)

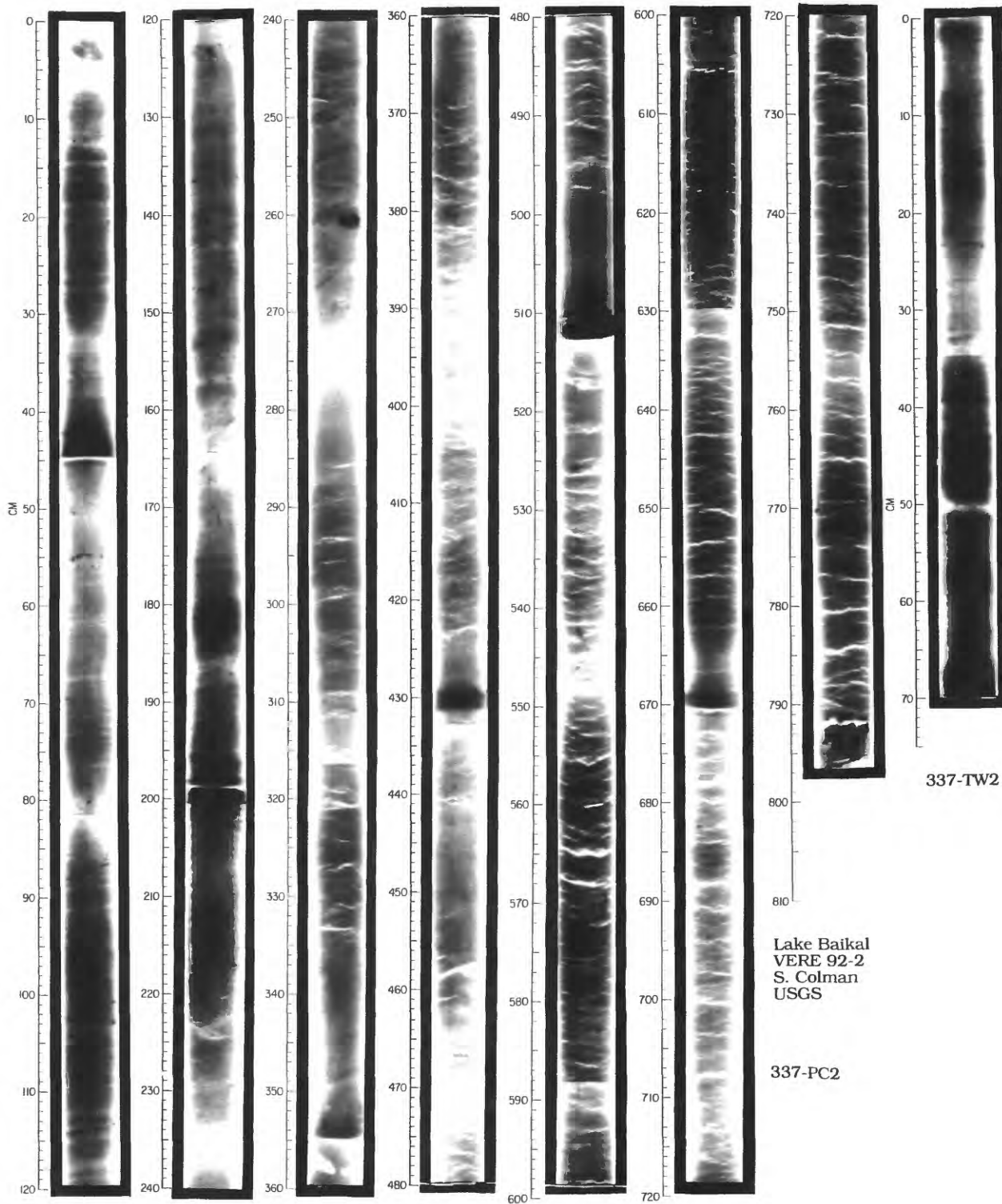
337 TW2



0-70 Mud, very dark grayish brown (2.5Y3/2), laminated. Very diatomaceous blebs and streaks, yellow to white, at 6, 10, 15, 21, 23.5, 26.5-27.5, 29, 33, 39, 41, 43, 64. Highly diatomaceous, granular-looking band at 50-51. Many dark brown streaks and mottles, 51-55. Tiny nodules or coarse sand 7.5-11, 13.5, 15, 17-19, 37-43, 48-49.

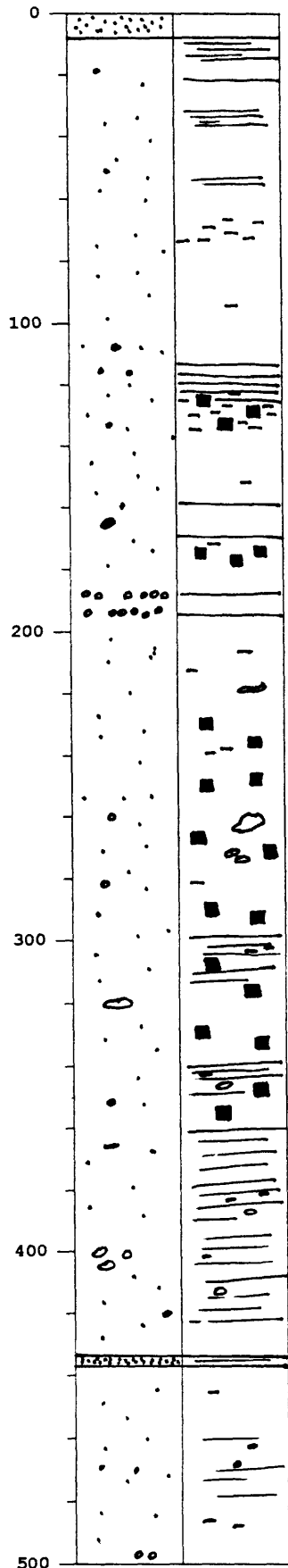
70 Base of core.





DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 337 PC2



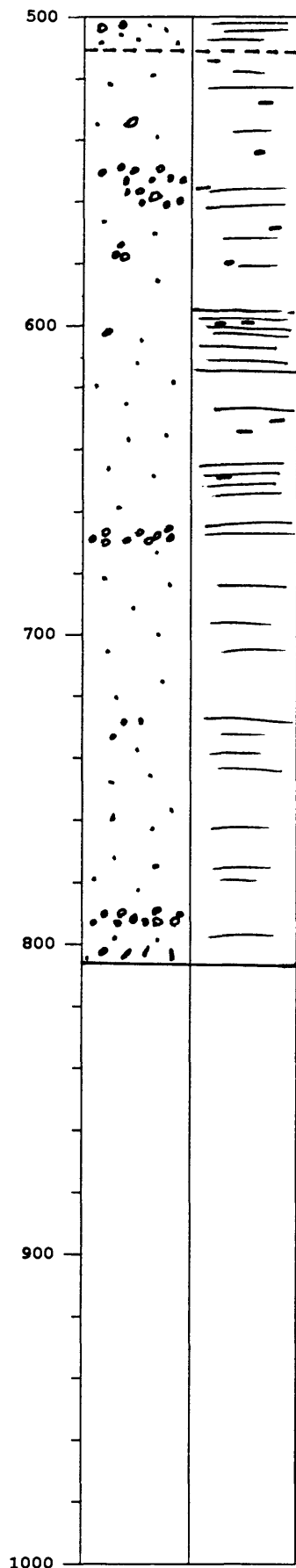
0-7 Silty sand, dark grayish brown (2.5Y4/2), massive.

7-434 Mud, dark greenish gray (5GY4/1), laminated. Scattered fine sand grains, abundant medium to large iron monosulfide (FeS) patches and small vivianite nodules. Laminae nearly continuous throughout unit, many containing fine nodules or small FeS patches. Vivianite nodules especially at 108, 116, 164, 188-189, 194, 320, 400-403. Numerous FeS patches, some large, 68-75, 125-135, 172, 220, 263, 272, 348. Dark mottles 125-135, 174-179, 229-358. Gas expansion cracks 368-424.

434-436 Silty sand, dark greenish gray (5GY4/1), laminated. Abundant, very fine micaceous sand.

436-511 Mud, dark greenish gray (5GY4/1), laminated. Scattered fine sand grains, FeS patches and small vivianite nodules. Medium vivianite clasts at 498-503. Gas expansion cracks 457-497.

DEPTH LITHOLOGY STRUCTURE
(CM)

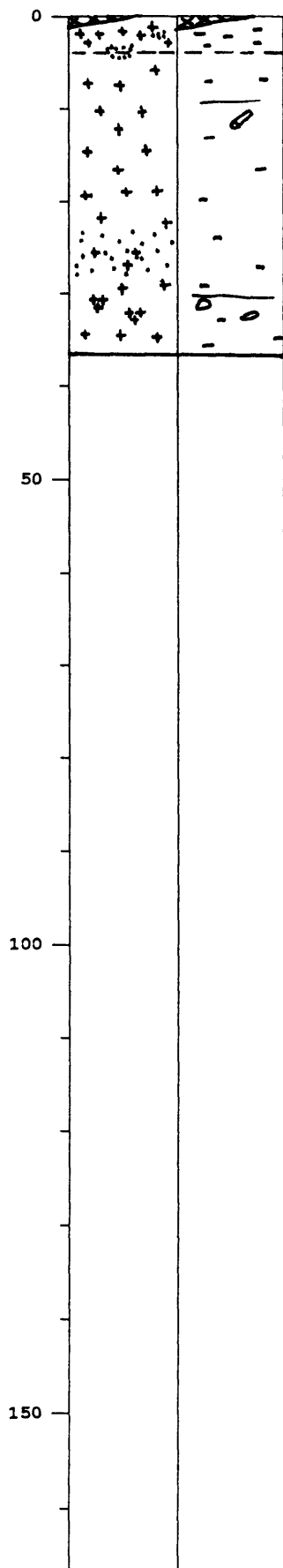


511-806 Mud, olive gray (5Y4/2), laminated. Except for color change, very similar to overlying unit. Scattered fine sand grains, abundant nodules of vivianite and FeS patches. Gas expansion cracks 525-791. Vivianite clasts especially numerous 551-561, and contained in laminae 668-669. Large vivianite clast (1 cm) 533-534. Less FeS below 650. Cluster of medium-sized nodules and soft clasts 791-794. Few blade-shaped vivianite crystals 801-804.

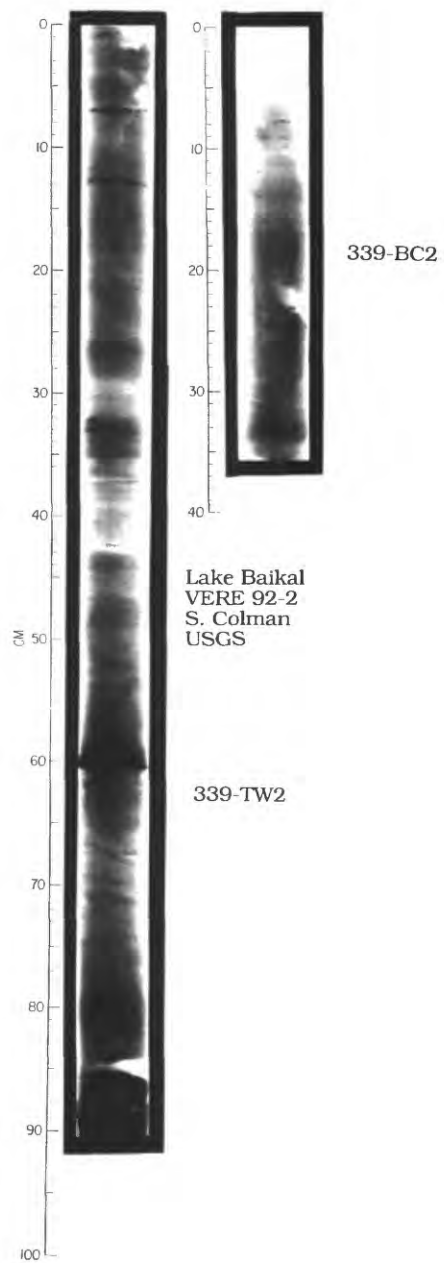
806 Base of core.

DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 339 BC2

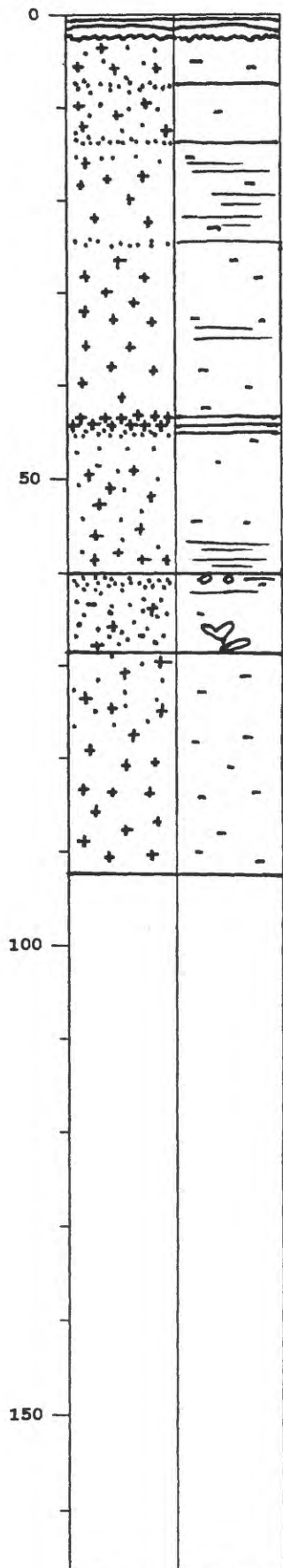


- 0-4 Mud, dark grayish brown (2.5Y4/2), nearly massive. Diatomaceous. Thin black layer at extreme top. Scattered iron monosulfide (FeS) flecks and pockets of fine sand. Streaks of oxidized orange.
- 4-37 Mud, olive gray (5Y4/2), nearly massive. Highly diatomaceous. Scattered FeS flecks. Very faint laminae at 9 and 30; fragment of wood at 11. Scattered medium sand grains 24-28. Small pockets of nearly pure diatoms (95%), 30.5, 32.5.
- 37 Base of core.



DEPTH LITHOLOGY STRUCTURE
(CM)

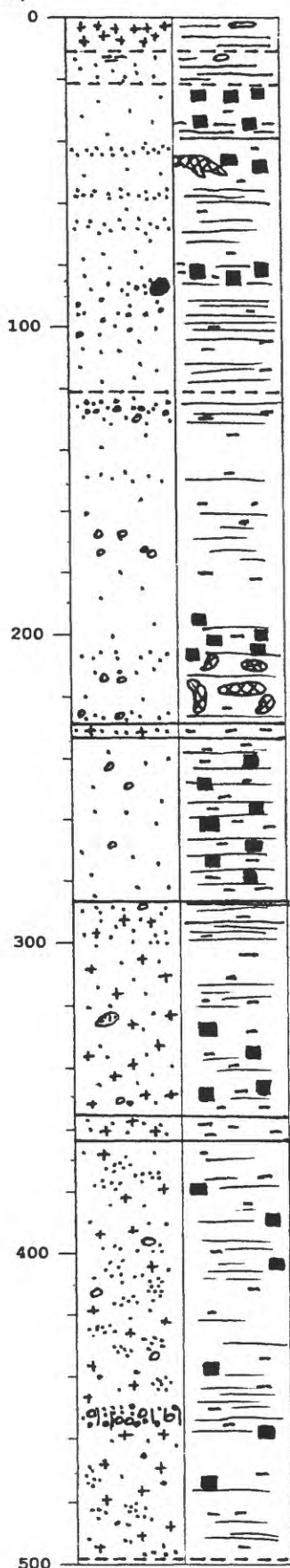
CORE 339 TW2



- 0-2 Mud, banded with dark brown, dark grayish brown, and dark yellowish brown (10YR3/3, 2.5Y4/2, 10YR3/6), massive. Very slightly crusty orange area at 1 cm.
- 2-60 Mud, dark olive gray (5Y3/2), somewhat laminated. Extremely diatomaceous. Some flecks of iron monosulfide (FeS). Scattered fine sand grains 2-26, 44-60. Laminae containing fine sand 7, 13, 25, 44. Weak laminae 16-22, 33-34, 57-60. Lighter colored lamina, 42.5-43.5, contains 50-70% diatoms.
- 60-68 Mud, dark olive (5Y3/3), nearly massive. Diatomaceous. Abundant, very fine sand grains at top of unit, scattered fine to medium grains toward bottom. Slightly lighter gray patches or blebs at 60, 65-68. Few FeS flecks.
- 68-92 Mud, dark olive gray (5Y3/2), massive. Extremely diatomaceous. Scattered FeS flecks. Some fine sand grains 68-76.
- 92 Base of core.

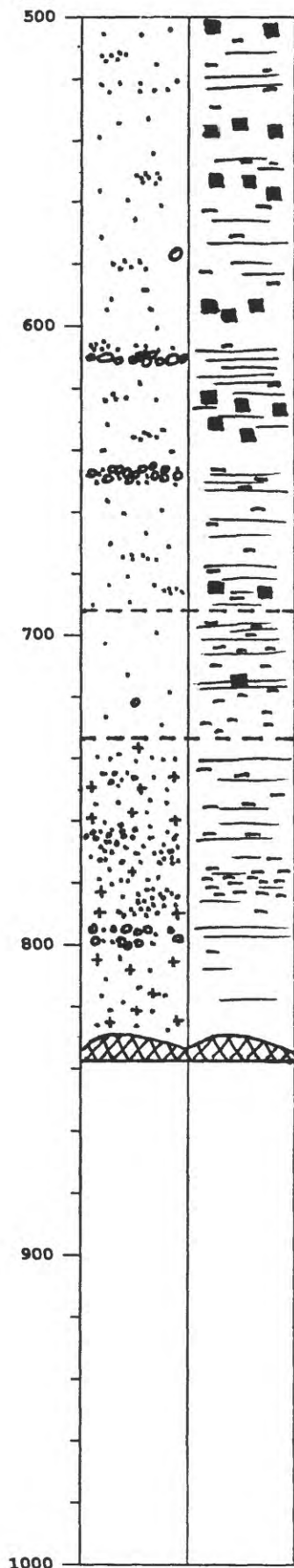
DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 339 PC2



- 0-11 Mud, black (5Y2.5/2), faintly laminated. Highly diatomaceous. Light gray streak at 4.
- 11-21 Mud, dark greenish gray (5GY4/1), laminated. Very moist, with scattered very fine sand. Laminae black or dark green. Solid clayey clast at 12. Granular, greenish black streak at 15.
- 21-121 Mud, dark greenish gray (5GY4/1), laminated and mottled. Much firmer than overlying unit, with scattered very fine sand and iron monosulfide (FeS) flecks throughout. Bands of mottling 26-27, 31-35, 46-48, 80-85. Dark greenish, granular laminae, 38-40, 56, 59-60, 112-118; containing coarse sand or small nodules, 91-107. Disturbed 45-52. Cobble (4 cm) at 85-89, pebbles and fine sand 87, 90. Abundant, very fine micaceous sand, 42-44; medium sand 58, 64-67. Dark, indistinct laminae 65, 68-69, 73, 80-85.
- 121-229 Mud, dark gray (5Y4/1), laminated. Color grades to dark greenish gray (5GY4/1) at 126-135, 146-155, 166-184, 196-229. Dark green or black, granular or sandy laminae 125, 129-131, 149, 206, 211, 228-229. Weaker laminae 160-162, 169, 172, 175, 198. FeS flecks and fine sand throughout; some angular coarse sand and gravel at 125. Mottles 196-209. Traces of soft vivianite 129.5, 169, 172, 175, 211, 228. Disturbed 205-228.
- 229-234 Mud, dark greenish gray (5GY4/1), massive. Fine sand and FeS flecks. Slightly diatomaceous.
- 234-286 Mud, dark greenish gray (5GY4/1), laminated and mottled. Abundant FeS flecks, some fine sand. Black laminae and mottles continuous, 1 cm apart. Very small flecks of soft vivianite 242, 248, 267.
- 286-357 Mud, dark greenish gray (5GY4/1), laminated. Scattered fine sand and FeS flecks. Diatomaceous. Laminae are much greener than in overlying unit, becoming black at bottom of unit. Some laminae appear granular at 286, 288, 292-297. Very faint green laminae 311, 313-319. Numerous gas expansion cracks, 240-310. Vivianite bleb at 288, bleb and small nodule at 351. Some mottling below 324. Small pocket of fine to medium sand at 326.
- 357-363 Mud, olive gray (5Y4/2), massive. Scattered fine sand and FeS flecks. Diatomaceous.
- 363-499 Mud, dark greenish gray (5GY4/1), laminated and mottled. Diatomaceous. Color grades to dark gray (5Y4/1) at 373-378, 384-391, 401-406, with laminae and mottling generally weaker in those bands. Scattered fine sand and FeS flecks throughout. Fine sand lenses 371-372, 375, 379, 407, 409-413, 415, 424, 432, 442, 452, 469-471, 480-484. Sand becoming coarser near bottom, with some gravel at 428, 481, 484, 498. Laminae are green or black; appear granular at 398, 406. Small vivianite clasts or blebs 398, 410-411, 432; vivianite-rich band of nodules, clasts, and some filled cracks, 451.

DEPTH LITHOLOGY STRUCTURE
(CM)

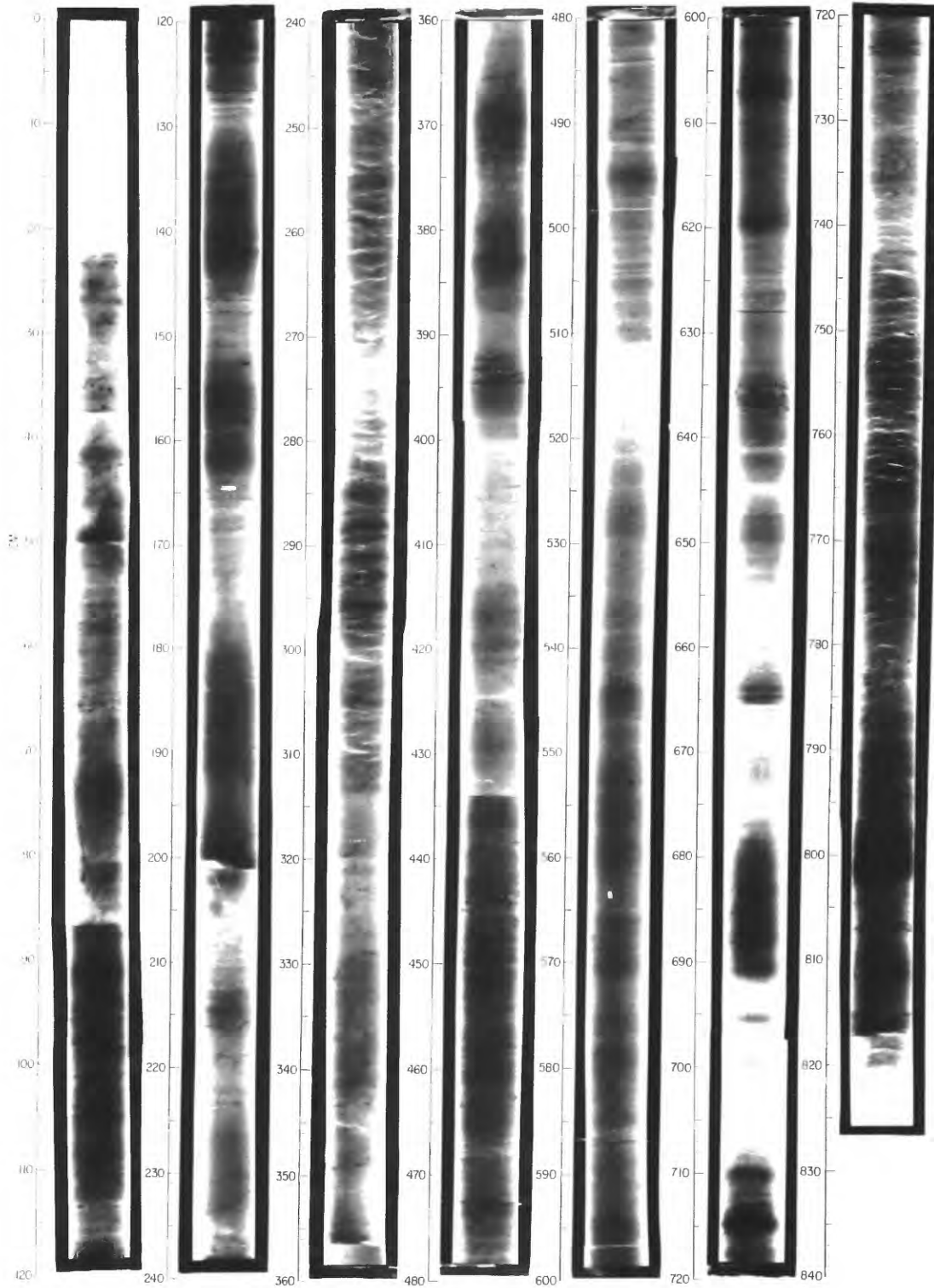


499-691 Mud, dark greenish gray (5GY4/1), laminated. Color grades to dark gray (5Y4/1) at 531-571 and 611-691. Scattered fine to medium sand and FeS flecks throughout. Fine sand lenses 513, 550-556, 580, 606, 635-637, 672-674, 685; gravel at 622. Laminae generally fainter than in overlying unit, greenish or black, some containing sand. Especially distinct, granular laminae at 521-522, 607, 646-647, 651. Abundant large soft clasts or nodules of vivianite, 610, 645-648; one large clast at 578-579. Mottling 506-507, 538-540, 557-559, 594-597, 620-634, 687-688.

691-734 Mud, dark greenish gray (5GY4/1), nearly massive. Few weak bands of dark gray (5Y4/1), also slightly grayer near top of unit. Rare fine sand grains; abundant flecks of FeS. Few thin, black laminae 698-701, 705, 717-718. Black mottle 717-718. Tiny vivianite fleck 721.

734-838 Mud, dark greenish gray (5GY4/1), laminated. Diatomaceous. Color grades to dark gray (5Y4/1), weakly banded with lighter gray, 806-819. Scattered fine to medium sand grains and lenses throughout; FeS flecks decreasing to bottom of unit. Gas expansion cracks 737-765. Coarse sand grains and pockets, or fine gravel, 745, 760-775, 781-789. Abundant FeS flecks 777-784. Laminae are black and indistinct, containing some sand, becoming extremely faint near bottom of unit. Greenish, granular laminae containing abundant soft clasts of vivianite, 794 and 796. Disturbed 833-838.

838 Base of core.

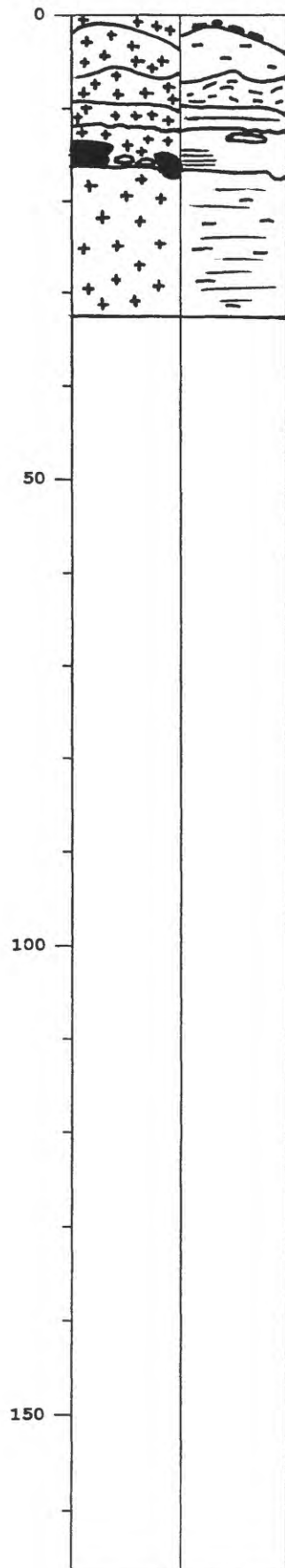


Lake Baikal
VERE 92-2
S. Colman
USGS

339-PC2

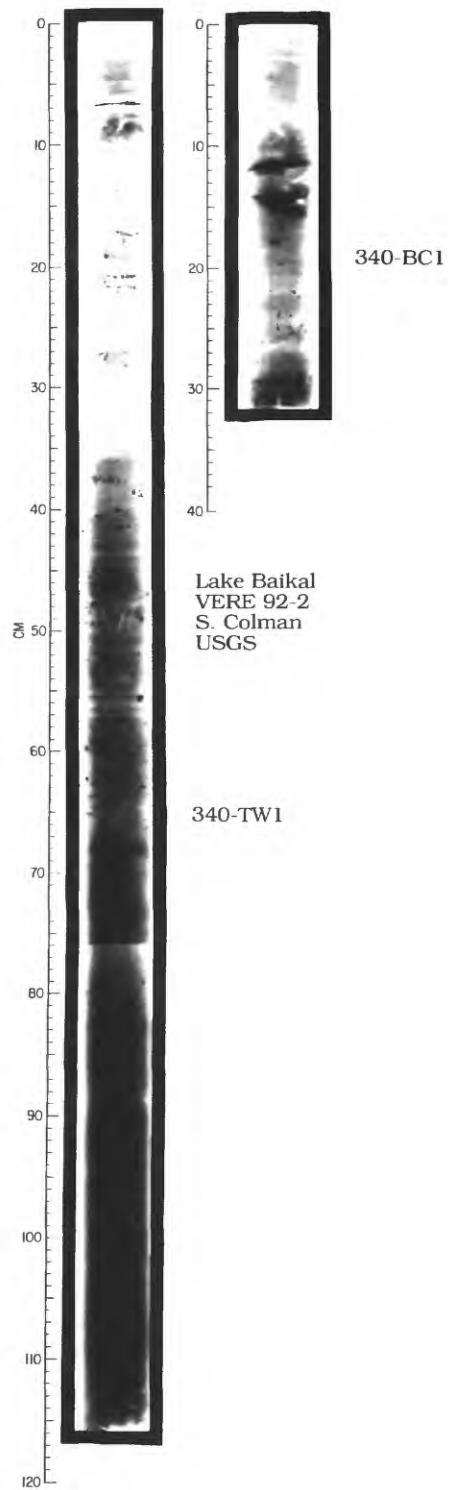
DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 340 BC1



- 0-2 Mud, dark yellowish brown (10YR3/4), massive. Diatomaceous. Black streaks along base.
- 2-7 Mud, olive gray (5Y4/2), nearly massive. Brownish at top. Diatomaceous. Few iron monosulfide (FeS) streaks.
- 7-9 Mud, olive brown (2.5Y4/4), massive. Disturbed. Diatomaceous. Brown streaks and patches, sharp lower contact.
- 9-12 Mud, very dark brown (10YR2/2) in top 1.5 cm, black (10YR2/1) in bottom 1.5 cm, massive. Black material is stiff and slightly consolidated. Diatomaceous.
- 12-16.5 Mud, dark brown (10YR3/3), laminated, disturbed. Diatomaceous. Patch of olive gray material (5Y4/2), 12.5-14. Stiff, very hard crusty material, strong brown (7.5YR5/8), 13.5-15.5. Some crumbling, softer crust pieces. Very hard piece of dark yellowish brown (10YR3/6) crust, 14.5-16.5.
- 16.5-32 Mud, olive gray (5Y4/2), laminated. More olive near top, darker gray toward bottom. Abundant broad streaks of darker and lighter material. Diatomaceous.
- 32 Base of core.





DEPTH LITHOLOGY STRUCTURE
(CM)

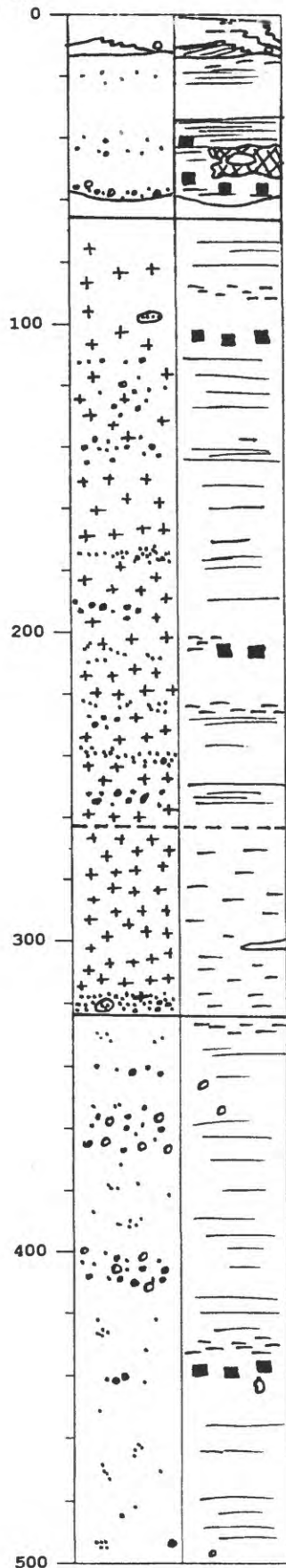
CORE 340 TW1



- 0-6.5 Mud, olive gray (5Y4/2), laminated. Very diatomaceous. Laminae become fainter toward bottom of unit. Dark yellowish brown (10YR3/6) in top 1.5 cm and bottom 5 mm. Iron monosulfide (FeS) streaks near bottom.
- 6.5-7 Mud, very dark brown (10YR2/2), laminated, slightly consolidated. Very diatomaceous. Black at top and bottom; both contacts very sharp.
- 7-9 Mud, dark yellowish brown (10YR3/4), laminated. Very diatomaceous. Soft crusts at 8 and 9 cm.
- 9-11 Mud, olive (5Y4/3), massive. Very diatomaceous. Soft nodules or pieces of olive brown (2.5Y4/4) crust throughout.
- 11-53 Mud, dark greenish gray (5GY4/1), laminated and banded. Greener, somewhat nodular or sandy at top. Diatom content decreases to bottom. Abundant FeS streaks. Some small nodules 21-22, 37-38, 45. Pebble at 25.
- 53-82 Mud, dark greenish gray (5GY4/1), banded. Mottles and FeS streaks throughout. Rare, very fine sand pockets.
- 82-118 Mud, dark greenish gray (5GY4/1), fine black laminae. Wider, slightly nodular laminae at 83, 90, 102. FeS streak at 106. Rare, tiny, very fine sand pockets.
- 118 Base of core.

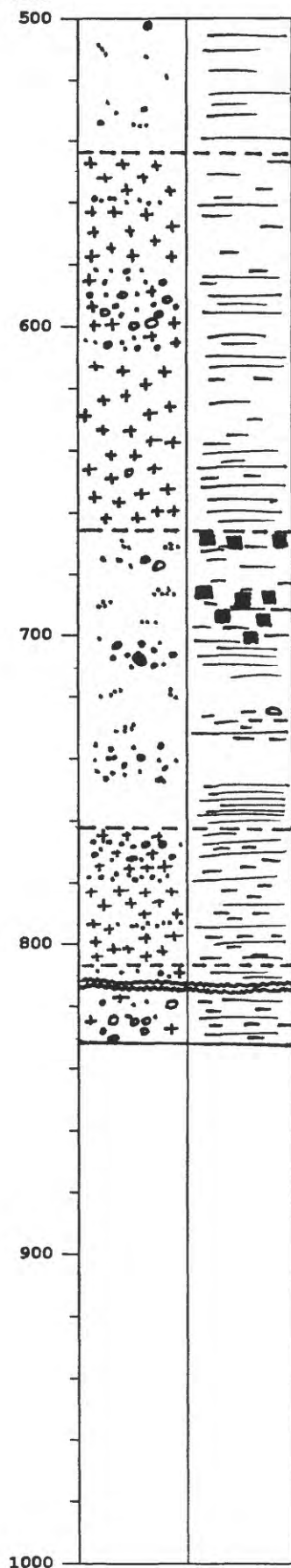
DEPTH LOGY STRUCTURE
(CM)

CORE 340 PC1



- 0-10 Mud, dark greenish gray (5GY4/1), nearly massive. Thin band of olive gray (5Y4/2), disturbed at top of unit. Disturbed black lamina at 5-6 cm. Single iron monosulfide (FeS) streak at 3. Bleb of crumbly orange material at 7-8.
- 10-13 Mud, black (N2/0), laminated and crusty. Disturbed.
- 13-58 Mud, dark greenish gray (5GY4/1), laminated. Fine laminae, some slightly nodular, 18-20, 37-45, 56-58; wider lamina (2 mm) at 33. Discontinuous pieces of laminae near top of unit. Mottles 41, 51-58. Disturbed 43-51.
- 58-66 Mud, dark greenish gray (5GY4/1), massive.
- 66-263 Mud, dark greenish gray (5GY4/1), laminated. Highly diatomaceous. Dark greenish laminae, most containing coarse sand or lithified nodules, 111-127, 140-142, 227-229, 250-255. Many vivianite nodules 120-124, 139-142, 191; large (1 cm) nodules 254-255. Some fine to medium sand, in lenses or bands, especially 99, 175-176, 205-210, 221-223, 238-242. Some FeS streaks, especially 85-89, 119, 170, 200-202, 221-223. Mottles 103-110, 203-205.
- 263-323 Mud, olive gray (5Y4/2), nearly massive. Highly diatomaceous. FeS and light-colored streaks common throughout unit. Bleb of non-diatomaceous mud, 303. Abundant fine to coarse sand at base. Very stiff, dry, oxidized clast of coarse sand, 320-323. Bottom contact is very sharp.
- 323-544 Mud, dark greenish gray (5GY4/1), laminated. Scattered fine to coarse sand grains and lenses. Laminae are dark greenish to black, many containing fine soft nodules. Bands of FeS flecks at 328 and 430, scattered streaks and patches 347, 353, 441, 498. Vivianite hard nodules at 340 and 440. Small to medium soft clasts or nodules in x-ray, 350-363 and 400-408. Some mottling 439-440. Gravel at 494 and 502.

DEPTH LITHOLOGY STRUCTURE
(CM)



544-667 Mud, dark greenish gray (5GY4/1), weakly laminated. Highly diatomaceous. FeS streaks and whitish streaks 544-584, 615-649. Laminae, especially 558, 578-615, 640-667, many containing vivianite nodules. Large vivianite nodules at 599 and 650.

667-762 Mud, dark greenish gray (5GY4/1), laminated. Color becomes somewhat pinkish 726-733. Fine greenish laminae, many appearing nodular, 701-715, 730, 747-760. Many fine sand pockets and lenses 667-745. Small to medium vivianite clasts and nodules, 676; very large nodule (2 cm) 706-708. FeS streaks 667-701, 726-733, FeS patch at 725. FeS nodules and some coarse sand or gravel 738-744. Mottles 669-671, 682-701.

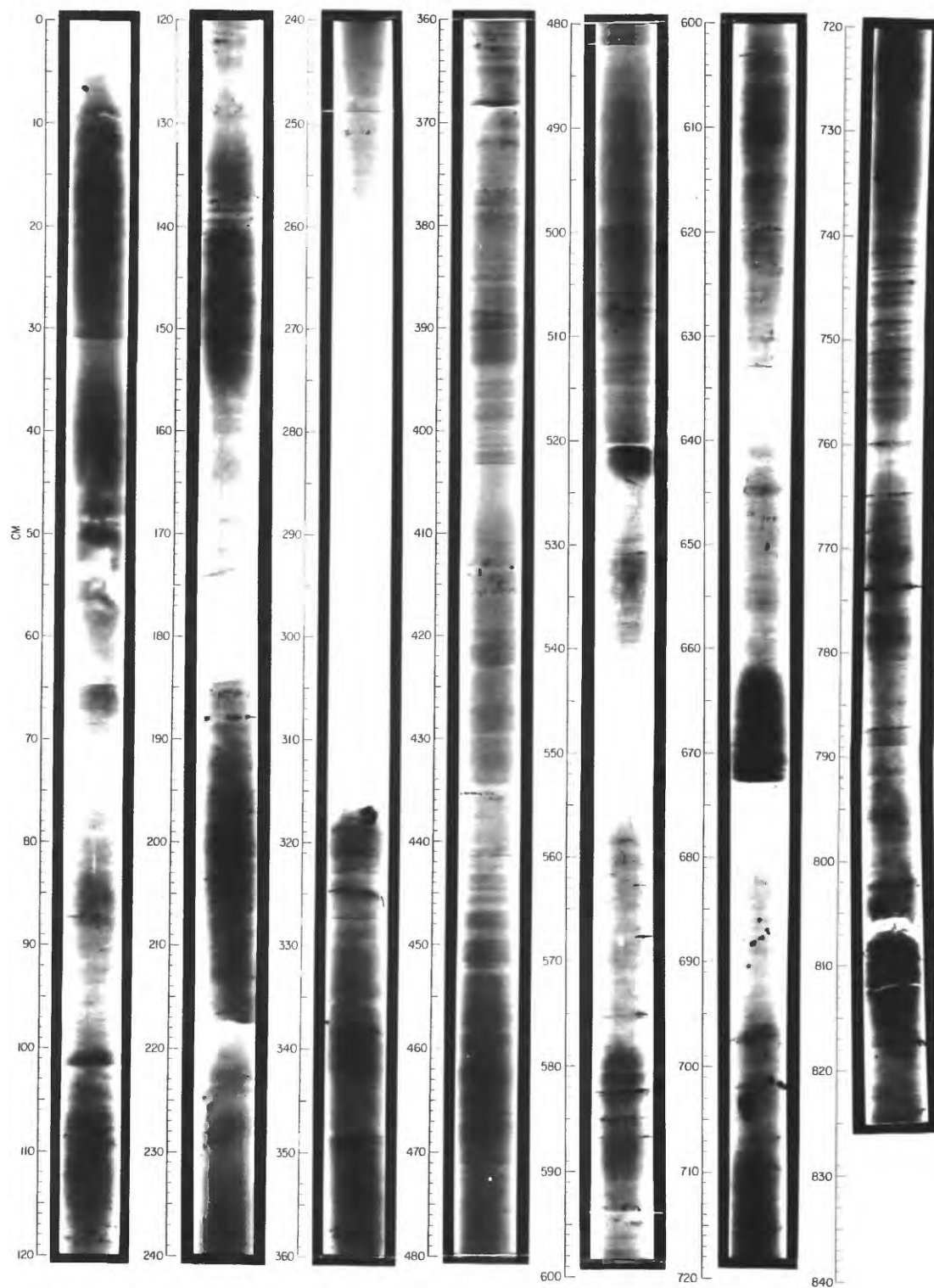
762-806 Mud, dark greenish gray (5GY4/1), nearly massive. Highly diatomaceous. Abundant FeS and whitish streaks. Some color bands and laminae containing small vivianite nodules, 765, 770, 779, 792.

806-831 Mud, dark greenish gray (5GY4/1), laminated and banded. Slightly diatomaceous. Abundant FeS streaks and sand grains, scattered small to medium vivianite nodules. Crack 812-813.

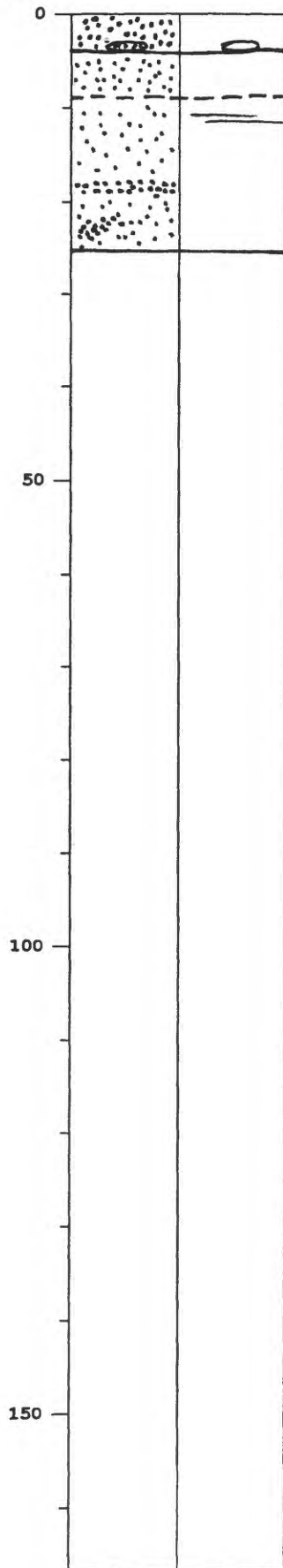
831 Base of core.

Lake Baikal
VERE 92-2
S. Colman
USGS

340-PC1



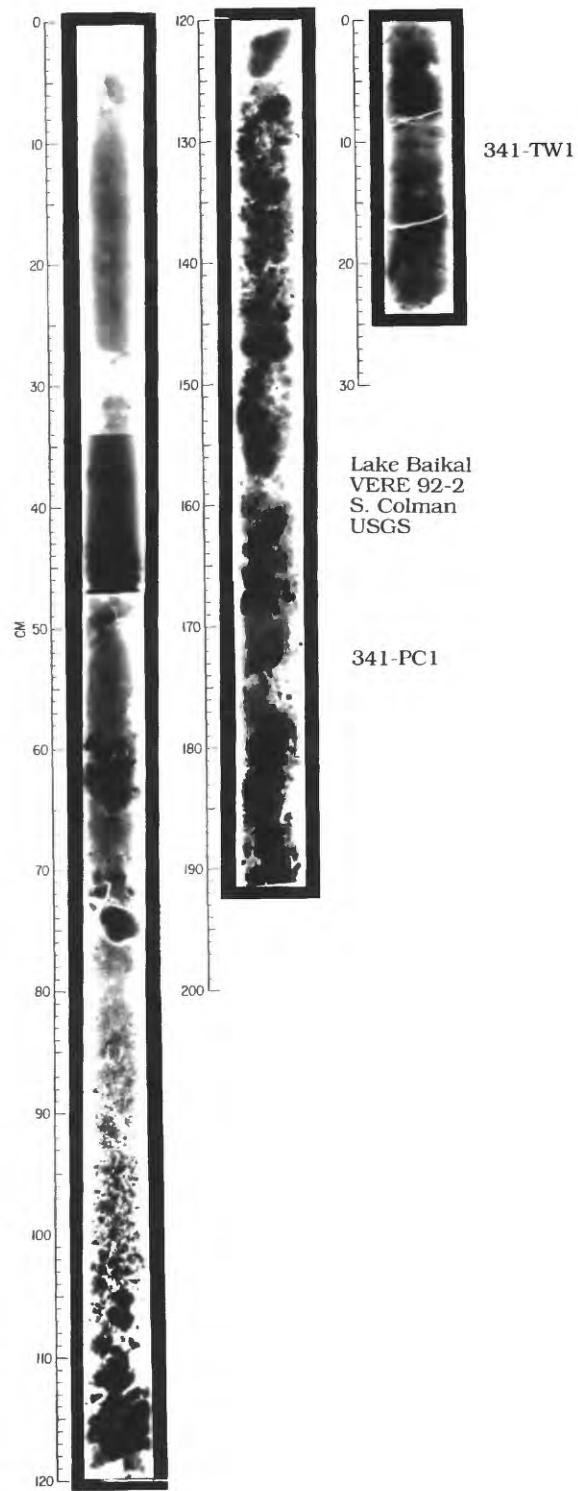
DEPTH LITHOLOGY STRUCTURE
(CM)



CORE 341 TW1

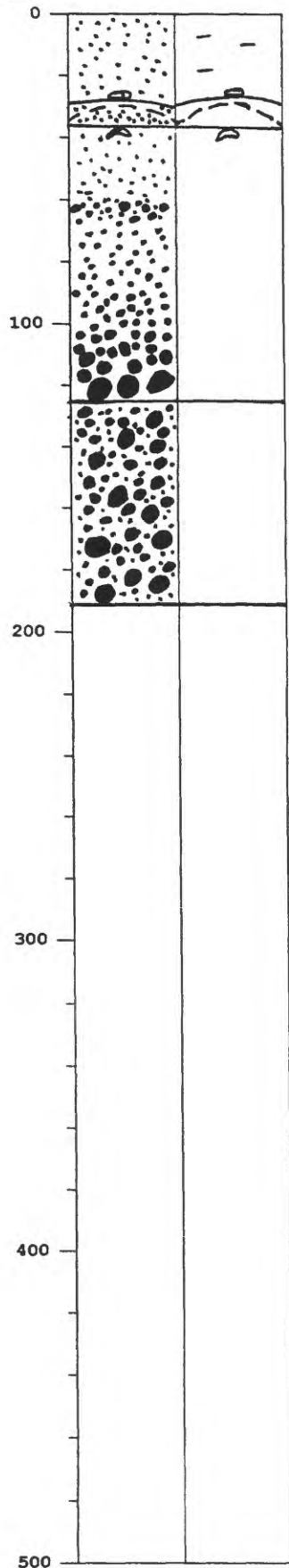
- 0-4 Medium sand, dark brown (10YR3/3), massive. Muddy. Lens of somewhat cleaner sand, 3-4.
- 4-8 Fine sand, dark grayish brown (2.5Y4/2), massive. Muddy.
- 8-25 Fine sand, yellowish brown (10YR5/4), nearly massive. Muddy. Faintly orange and gray laminae, 11-12. Lenses of medium sand 18, 20-23.
- 25 Base of core.





DEPTH LITHOLOGY STRUCTURE
(CM)

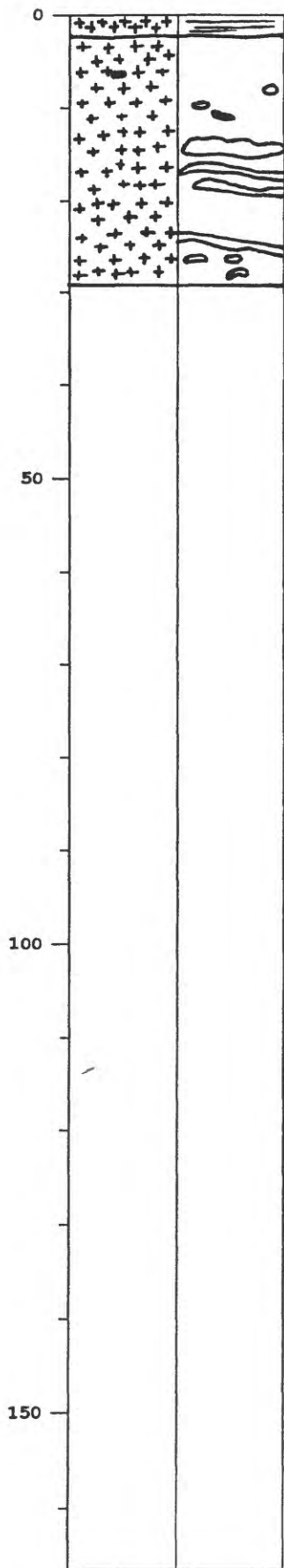
CORE 341PC1



- 0-29 Sand, dark yellowish brown (10YR3/4), massive. Medium to fine micaceous sand, slightly finer near top. Rare iron monosulfide (FeS) nodules and streaks. Pocket of very dark brown (10YR2/2), muddy, medium fine sand, 28-29.
- 29-30 Mud, light olive brown (2.5Y5/4), massive. Scattered medium sand.
- 30-33 Sand, dark yellowish brown (10YR3/6), massive. Muddy.
- 33-125 Sand, gravel, cobbles, dark brown (10YR3/3), massive. Unit fines upward from large (5.5 cm) cobbles at bottom to medium sand at top. Pocket of dark yellowish brown (10YR3/6), muddy, medium sand, 37-38. Very poorly sorted band ranging from clay to cobbles, brown to black, 60-66.
- 125-192 Sand, gravel, cobbles, dark brown (10YR3/3), very poorly sorted, fining slightly upward.
- 192 Base of core.

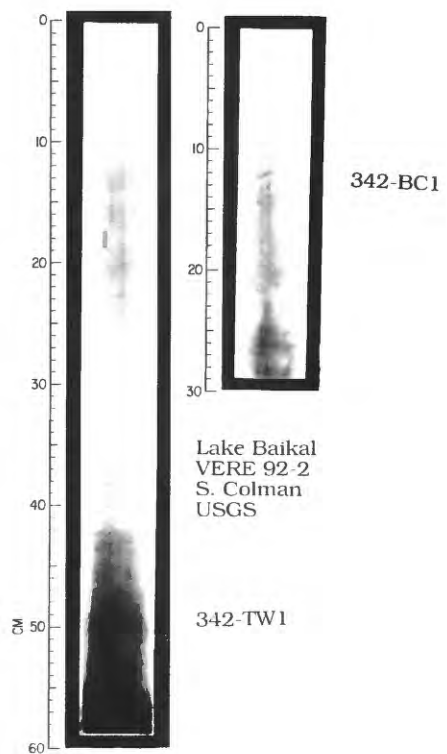
DEPTH LITHOLOGY STRUCTURE
(CM)

CORE 342 BC1



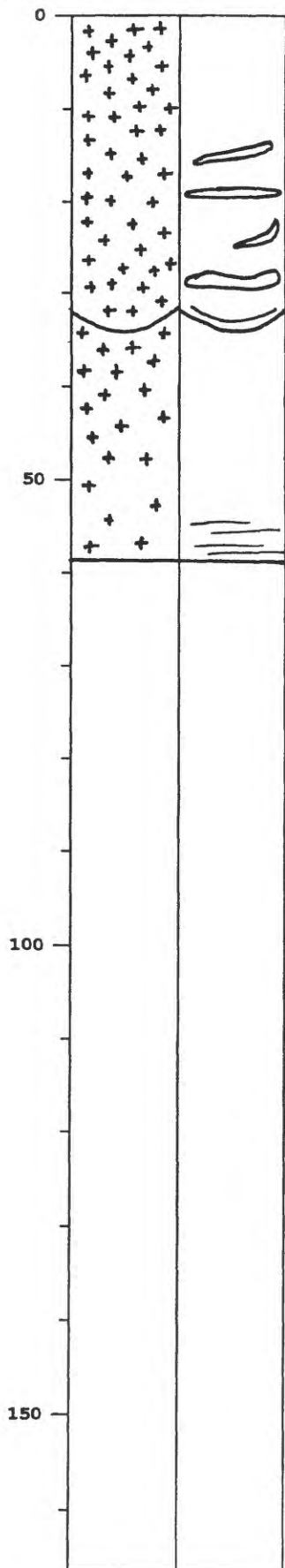
- 0-2 Mud, dark yellowish brown (10YR3/6), laminated. Highly diatomaceous. Dark brown at surface. Laminae slightly orange.
- 2-29 Mud, olive gray (5Y4/2), nearly massive. Extremely diatomaceous, with large blebs of nearly pure diatoms. Tiny organic fragment at 6. Color becomes slightly lighter gray near bottom.
- 29 Base of core.





DEPTH LITHOLOGY STRUCTURE
(CM)

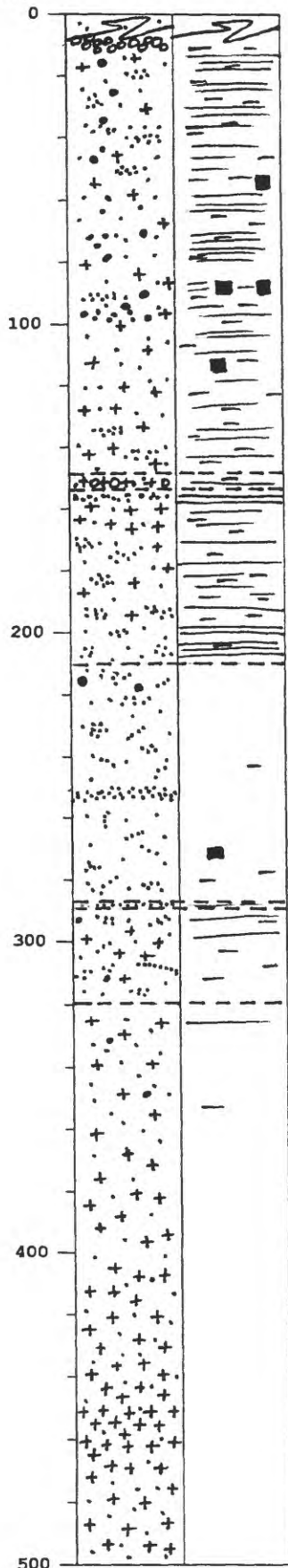
CORE 342 TW1



0-32 Mud, olive gray (5Y4/2), nearly massive. Color is more olive (5Y4/3) at 0-3 cm, and grades to dark olive gray (5Y3/2) at bottom of unit. Extremely diatomaceous (60-80%), with large whitish blebs of even higher diatom concentration. One dark lamina near bottom.

32-59 Mud, dark olive gray (5Y3/2), massive. Diatom content decreases to about 20% at bottom. Very faint laminae 55-59.

59 Base of core.



0-149

Mud, dark greenish gray (5GY4/1), laminated and banded. Diatom content increases from about 10-20% near top of unit to about 40% at bottom. Abundant fine and very fine sand grains and pockets, and iron monosulfide (FeS) streaks. Sand lenses and blebs especially common near top and bottom of unit. Slightly disturbed, 0-7. Soft, medium to coarse granular material 6-8. Very faint, closely spaced green laminae throughout much of unit. Some laminae are dark greenish or black, containing coarse sand or small vivianite nodules, such as 38, 59-63, 69, 98-99. Scattered gravel or small pebbles 16-48, 76-79, 91. Mottling 54, 88-89, 116.

149-154

Mud, dark greenish gray (5GY4/1), laminated and banded. Diatomaceous. Scattered fine sand and FeS streaks. Abundant vivianite crystals, nodules and soft clasts.

154-210

Mud, dark greenish gray (5GY4/1), laminated and banded. Greener (5GY4/1) bands 156-157, 170-178, 190-198, 200-203, 205-208. Diatom content decreases toward bottom of unit. Abundant fine sand grains, many large lenses and pockets, and FeS streaks. Concentration of sand and gravel at 156.

210-287

Mud, dark greenish gray (5GY4/1), nearly massive. Abundant fine to medium sand grains and lenses. Many lenses form a diagonal pattern. Pebbles at 216 and 219. Band of fairly clean fine sand, 250-252. Rare mottles or FeS streaks.

287-289

Mud, dark greenish gray (5GY4/1), well laminated. Stiff and crusty, with abundant very fine sand.

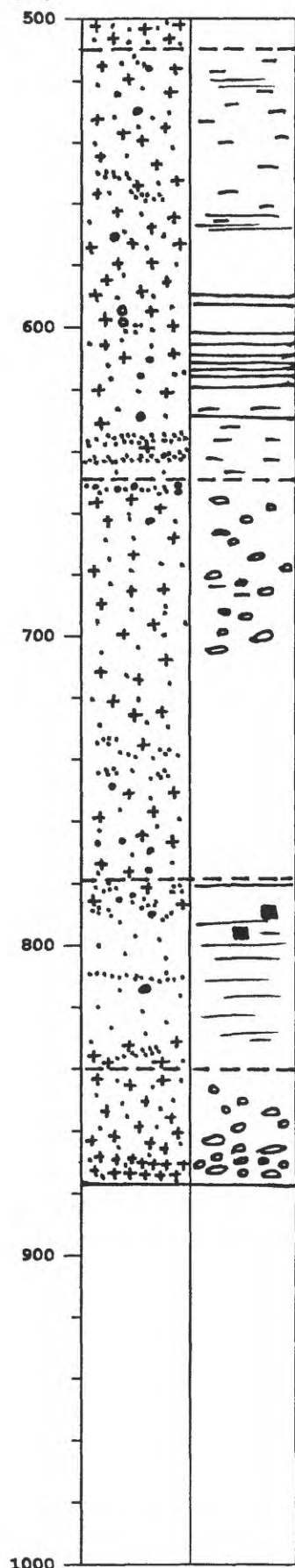
289-320

Mud, dark greenish gray (5GY4/1), rarely laminated. Diatomaceous. Abundant fine to medium sand grains and lenses, rare FeS streaks. Pebbles at 292 and 312.

320-510

Mud, olive gray (5Y4/2), massive. Extremely diatomaceous. Diatom content increases from about 15% at top of unit, to about 85% at 455, then decreases to 40% at bottom. Abundant very fine sand grains; rare gravel. One black lamina at 326, one FeS streak at 352.

DEPTH LITHOLOGY STRUCTURE
(CM)



- 510-649 Mud, greenish gray (5GY5/1), somewhat laminated and banded. Generally very diatomaceous (30-50%), decreasing slightly from 610 toward bottom. Very fine sand grains throughout; some lenses or gravel at 517, 522-525, 550-557, 569, 624, 637-641. Dark blue sandy blebs at 596-598. Dark green bands 590-592, 601-628. Faint green laminae 519-521, 563-566. Some FeS streaks 510-566, 624-649.
- 649-779 Mud, gray (5Y5/1), nearly massive. Very diatomaceous. Rare FeS streaks. Common subhorizontal blebs of whitish material, 654-705. Fine sand grains throughout; many lenses 738-744. Thin band of gravel and very coarse sand, 650. Gravel or pebbles 662, 749, 768-777.
- 779-840 Mud, dark greenish gray (5G4/1), faintly laminated. Slightly diatomaceous at very top and bottom of unit. Rare mottles. Few dark green laminae 779-780. Abundant fine sand grains and lenses, especially 779-788, 807, 837. Pebbles at 788 and 814.
- 840-877 Mud, gray (5Y5/1), massive. Diatom content increases from about 15% at top of unit to 85% at bottom. Whitish blebs of more highly diatomaceous material, increasingly common with depth. Very fine sand grains throughout.
- 877 Base of core.

