

31. CENOZOIC ARCTIC GATEWAY PALEOCLIMATE VARIABILITY: INDICATIONS FROM CHANGES IN COARSE-FRACTION COMPOSITION¹

Thomas C.W. Wolf-Welling,^{2,3} Michel Cremer,⁴ Suzanne O'Connell,⁵ Amelie Winkler,^{2,3} and Jörn Thiede²

ABSTRACT

Coarse-fraction sediment (>63 µm) studies for Leg 151 Sites 908 and 909 have enabled us to reconstruct the paleoclimate since the early Miocene (18.0 Ma) of the Fram Strait, in order to better understand this gateway between the North Atlantic and the Arctic Ocean. Study of the grain-size distribution patterns (subfractions 63–125 µm, 125–250 µm, 250–500 µm, 500–1000 µm, and >1000 µm plus the coarse-component composition) suggests possible seasonal ice-rafting starting as early as 14.0 Ma. Also shown is a clear signal of ice-rafting events between 10.8 and 8.6 Ma, 7.2 and 6.8 Ma, 6.3 and 5.5 Ma, and since 5.0 Ma. Evidence indicates that the initiation of the East Greenland Current took place at 10.8 Ma and is related to the reorganization and shutdown of deep-water connections in the Middle and Central American Seaways during the latest middle to late Miocene. During the Pliocene–Pleistocene, the polar front moved over Site 908, covering the area with sea ice and pack ice during the Pleistocene (between 1.9 and 1.2 Ma). The West Spitsbergen Current episodically reached the Fram Strait during the Pliocene–Pleistocene, suggesting that the Norwegian Sea was never completely covered by sea ice and pack ice in that era.

INTRODUCTION

In the summer of 1993, during Ocean Drilling Program (ODP) Leg 151, sediments were drilled at seven sites on the Iceland Plateau, the Fram Strait, and on the Yermak Plateau. One of the goals of this research was to study the influence of the Cenozoic development of the Fram Strait as a gateway between the Arctic Ocean and the Nordic Sea. Our principal objective in this paper is to document the compositional variations in grain-size distribution and major coarse-fraction component assemblages in Leg 151 Cenozoic sediments. This information gives us a more complete understanding of major variations in paleoceanography and paleoclimate in the Fram Strait.

Studies described in this paper are focused on the two sites, Site 908 and Site 909, in the Fram Strait region (Fig. 1A). Site 908 was drilled on the Hovgaard Ridge in water depths of 1273 m, recovering a 344-m-thick sedimentary sequence. This location marks the northern boundary of the Boreas Basin, which blocks the deep southern Fram Strait and acts as a marginal elevation (Myhre, Thiede, Firth, et al., 1995). Site 909 is located on a small abyssal terrace north of the Hovgaard Ridge in a water depth of 2519 m. At this site, 1061 m of sediment were recovered.

The Fram Strait (Fig. 1B), with a present critical sill depth of 2600 m, represents the only deep connection between the Arctic Ocean and the Global Ocean (Myhre et al., 1993). The Arctic hydrographic current systems, in particular the Transpolar Drift, transport Arctic sea-ice from the East Siberian Sea to the Greenland Sea, the Fram Strait acting as a depositional estuary for all the ice-raftered and current-transported material (Honjo, 1990). It has only been recently, however, because of advancements in deep-ocean sampling techniques, that

studies of the depositional environment in this area have been undertaken.

Much sedimentological work carried out in adjacent areas, such as the Nansen-Gakkel Ridge area to the north of Fram Strait (Thiede et al., 1990a) and the margins of the Arctic Ocean (Sharma, 1974; Herman, 1974), have contributed considerably to our understanding of the source area and current/ice transport regimes and, hence, to the paleoceanography of the area around the Fram Strait (Spielhagen, 1991; Hebbeln, 1991). Current and ice movement is one of the main controls of sediment deposition in the Fram Strait (Fig. 1B). The nature of sediments deposited in the Fram Strait is related to the geology of the continental margin and shelves surrounding the Arctic Ocean and the Fram Strait. The timing of the onset of glacially influenced deposition is still the subject of much discussion. Schaeffer and Spiegler (1986) have reported ice-rafted debris (IRD) from Deep Sea Drilling Project (DSDP) Site 408, located in the central North Atlantic, starting as early as 10.2 Ma. IRD events are recorded at ODP Leg 105 Site 646 (Labrador Sea) between 9.5 and 7.0 Ma, 5.7–5.4 Ma and since 4.0 Ma (Wolf and Thiede, 1991). Smaller concentrations of IRD are recorded at ODP Leg 104 Sites 643 and 642 (Vøring Plateau) between 9.0–7.0 Ma, ~5.4–4.2 Ma, and since 3.8 Ma (Jansen and Sjøholm, 1991; Wolf and Thiede, 1991).

The present-day current pattern (Fig. 1B) in the Fram Strait is dominated by the warm northward flowing West Spitsbergen Current (WSC) on the eastern side and by the cold East Greenland Current (EGC) transporting polar waters southward on the western side of the Strait (Gascard et al., 1988). The WSC transports near-surface Atlantic water to the north (Hebbeln and Berner, 1993; Hebbeln and Wefer, 1991). The path of the WSC as it continues into the Arctic is complex, as the current appears to split into two or more branches (Carmack, 1990); each is strongly influenced by topography (Gascard et al., 1988). Two branches oriented southeast-northwest are associated with topographic features in the central part of the Fram Strait (Gascard et al., 1988). North of 80°N, remnants of the WSC follow the western side of the Yermak Plateau and feed warm, more saline waters into the Arctic Ocean. In the Arctic Ocean itself, the Transpolar Drift (TPD) moves surface waters of the Eurasian basin (Gard, 1988) across toward the North Pole and then on toward the Fram Strait (Carmack, 1990). It is this current that transports sea ice and pack ice from the north of Siberia through the Eurasian Basin to the Fram Strait (Bischof et al., 1990).

¹Thiede, J., Myhre, A.M., Firth, J.V., Johnson, G.L., and Ruddiman, W.F. (Eds.), 1996. *Proc. ODP, Sci. Results*, 151: College Station, TX (Ocean Drilling Program).

²GEOMAR Research Center for Marine Geosciences, Wischhofstraße 1–3, Building 4, D-24148 Kiel, Federal Republic of Germany. twolf@geomar.de

³Geologisch-Paläontologisches Institut und Museum der Christian-Albrechts-Universität, Olshausenstraße 40, D-24118 Kiel, Federal Republic of Germany.

⁴Département de Géologie et Océanographie, URA CNRS 197, Université de Bordeaux I, Avenue des Facultés, 33405 Talence cedex, France.

⁵Department of Earth and Environmental Sciences, Wesleyan University, Middletown, CT 06459-6034, U.S.A.

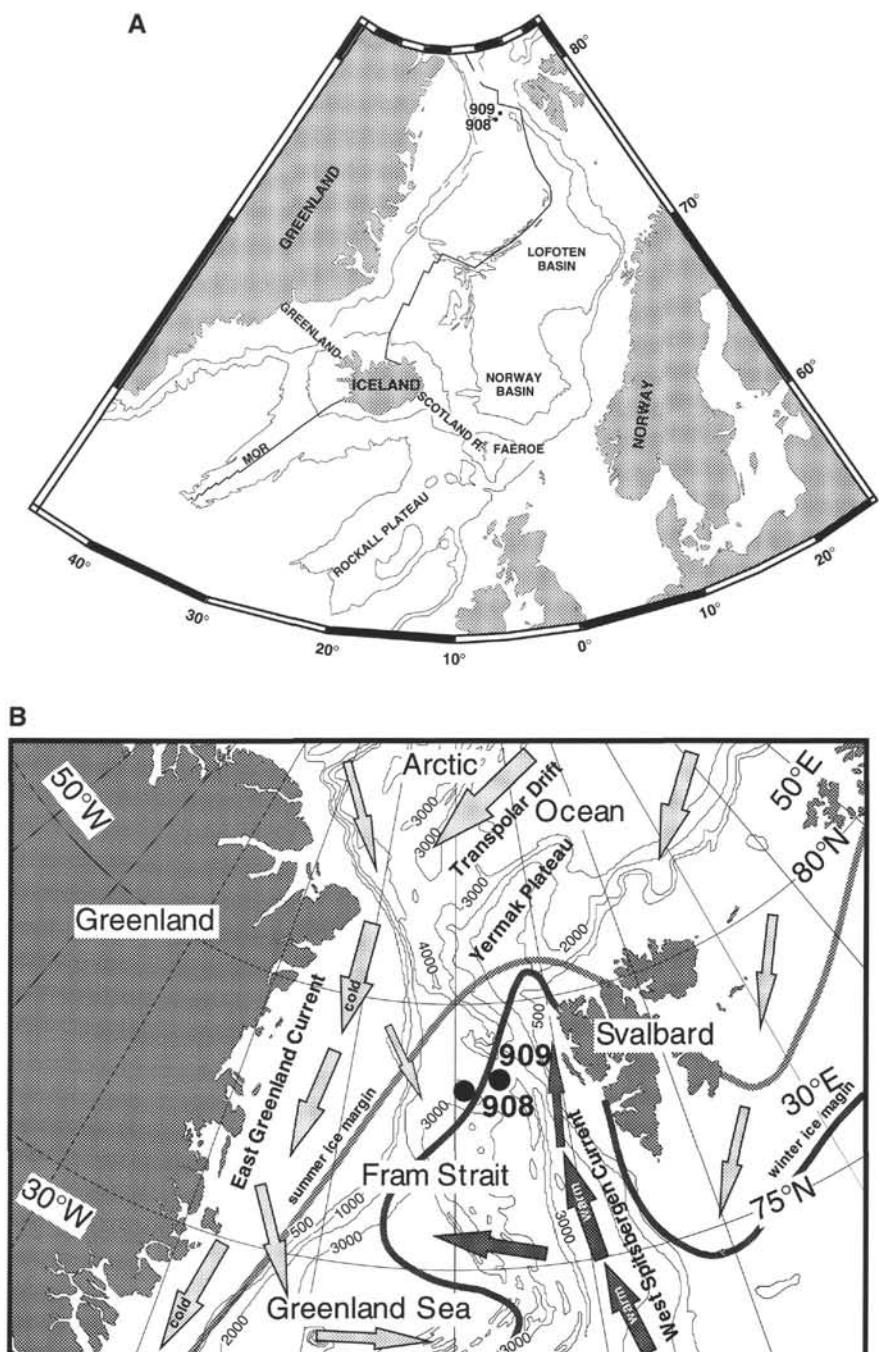


Figure 1. A. Study area and location of Sites 908 and 909. B. Fram Strait region with major circulation pattern and ice margins.

The Fram Strait region is an area of pronounced recirculation of Atlantic water (Carmack, 1990). The movement of water (Fig. 1B) within the Arctic region is dominated by three water masses (Coachman and Aagaard, 1974; Aagaard et al., 1985): (1) the surface Arctic water (0–200 m depth), whose temperatures are modified by concentrations of salt and an accompanying increase in salinity in surface water through the freezing of ice and by the inflow and subsequent mixing of Atlantic and Pacific waters; (2) the Atlantic layer (200–900 m depth) with temperatures above 0°C and salinities higher than those of surface Arctic waters; (3) the bottom water, whose temperatures are below 0°C, but salinities are similar to those of the Atlantic layer. EGC water masses are similar to those of the Arctic Ocean, although the surface layer normally has a strong halocline, formed

from freshwater added from river run-off or sea-ice meltwater (Schlosser et al., 1994). On the opposite side of the Fram Strait, water masses from the West Spitsbergen Current are comprised of the following: (1) Atlantic water (0–800 m depth), its lower boundary being defined by the 0°C isotherm. The temperature in the upper 100 m is >5°C, and salinity increases rapidly downwards below the upper 100 m of depth. (2) Deep water below the Atlantic water is nearly isohaline, with temperatures between 0°C and approximately -1°C. Additional dense waters are partially modified by brines outflowing from Svalbard fjords during winter (Quadfasel et al., 1988). A winter section through the Fram Strait along 79°N (Meincke et al., 1994) showed the surface layer to be occupied by a relatively thin blanket of polar water. Below 1200 m depth, there were two water masses;

the deep, outflowing Arctic Ocean water mass and water with Norwegian Sea characteristics.

The region between Greenland and Svalbard is dominated by a seasonally fluctuating sea-ice cover, which has been demonstrated to be a major factor controlling sediment deposition (Honjo, 1990; Bischof et al., 1990; Thiede et al., 1990b). Ice coverage in the Fram Strait (Hebbeln and Wefer, 1991) is controlled by current-water mass circulation.

METHODS

Sediment samples were taken from cores from Sites 908 and 909 using a 10–15 cm³ plugging device for grain-size and coarse-fraction component analysis. Coarse-fraction component analysis is restricted to the upper 185 m below sea floor (mbsf; Unit I) at Site 908.

Grain-Size Separation

All <63-μm sediments were passed through a 63-μm sieve by wet sieving and were separately stored after 14 days of settling time in a 5000-cm³ container. The remaining coarse sediment was rinsed with distilled water into 100 cm³ plastic containers and placed in a fan oven for drying at 40°C. After drying, the coarse sediment fraction was further weighed before dry sonic sieving. Dry sieving utilizes a sonic sifter with sieves of the following grain sizes: >1000 μm, >500 μm, >250 μm, >125 μm, and >63 μm. The sieving time for each sediment sample was set at 5 minutes and each fraction was carefully removed from the sieves. Sieves were cleaned with an air pressure system between each sample run. The measured mass of the coarse fraction is shown in Tables 1 and 2A, B.

Coarse-Fraction Grain Analysis

Two subfractions, 125–250 μm and 250–500 μm, were combined, because previous work on sediment grain analysis (Henrich et al., 1989; Wolf and Thiede, 1991) indicated that (1) both subfractions seem to be most representative of the >63 μm fraction and (2) the subfraction >125 μm avoided problems associated with current deposits of the <125 μm grain-sizes. This 125–500 μm sample was then divided equally using a micro-splitter into a countable number of grains, which could then be identified under a microscope. The number of times the sample was divided was dependent on the amount of sediment. Between 500 and 700 grains were counted for each sample from both sites. The grains were identified using a low-power binocular microscope. They were divided into four major categories: biogenic components, terrigenous components, authigenic components, and volcanic components. Biogenic components consist of benthic agglutinated foraminifers, benthic calcareous foraminifers, planktonic foraminifers, radiolarians, diatoms, sponge spicules, and flagellates. Terrigenous components comprise quartz grains (both angular-subrounded and rounded), feldspar (potassium and plagioclase varieties), muscovite, and biotite micas, rock fragments (identified as igneous, metamorphic, and sedimentary fragments where possible), heavy minerals, and coal fragments. Authigenic components include glauconite, pyrite (crystals and burrows filled with pyrite), and pellets. Volcanic components were volcanic glass and altered basalt fragments. Also counted were aggregates and miscellaneous grains termed “other grains,” which included aggregates, limonitic encrustations, concretions, and tektites. Grain counts were automatically stored in a Macintosh-PC using the Cinderella® counting program (Michelsen 1994). Values are given in Tables 3 and 4.

RESULTS

The grain-size distribution and coarse-fraction composition of Sites 908 and 909 display significant changes throughout the holes.

Lithologic descriptions of the individual drill sites are given in the sedimentology site chapters (Myhre, Thiede, Firth, et al., 1995); the differentiation of lithologic units as found there are also used here. Detailed descriptions of weight percentages of the various subfractions are found in Figures 2 and 6. Coarse-fraction composition is shown in Figures 3–5 and 7–9.

Grain-Size Distribution

Site 908

The >63 μm fraction on average consists of 20 wt% in Subunit IA. In Subunits IB/IC, the average value is approximately 15 wt%. The average values in Unit II are below 5 wt%. The 63–125-μm fraction shows average values of 50 wt% throughout the entire core. The 125–250-μm fraction shows average values of 25 wt% in Unit IA, 15 wt% in Subunit IB, 10 wt% in Subunit IC, and <5 wt% in Unit II. Two peak values (as high as 30 wt%) occur at ~210 mbsf and below 260 mbsf in Unit II. The 250–500-μm fraction generally displays low amounts, less than 10 wt%. However, higher amounts of this fraction, up to 55 wt%, occur in Subunit IA at 8 mbsf, in Subunit IB at 82 mbsf and 143 mbsf, as well as in Unit II at ~200 mbsf and between 280 and 310 mbsf. The 500–1000-μm fraction displays average values of the less than 5 wt% in Subunits IA and IB. Higher values of up to 50 wt% occur in Subunit IC and Unit II. In Subunits IA and IB, the >1000-μm fraction shows average values of approximately 5 wt%, but numerous peaks with values as high as 40 wt% are also found in the fraction. In Subunits IC and II, the average value of the >1000-μm fraction is ~20 wt%, with peak intervals of up to 70 wt% at 200 mbsf and between 250 and 270 mbsf.

Site 909

The >63 μm fraction displays average values of 18 wt% in Unit I, average values of 5 wt% in Unit II, average values of 15 wt% in Subunit IIIA, and values of up to 80 wt% in Subunit IIIB. The 63–125-μm fraction is present with average values of approximately 80–50 wt% in Units I to III. The values for Unit I are somewhat lower. The 125–250-μm fraction displays average values of 5–15 wt% throughout the hole. Slightly higher values occur at Unit I and Subunit IIIB. The 250–500-μm and 500–1000-μm fractions reach average values of 8–12 wt% throughout the hole. Higher peak values, up to 50 wt%, occur at ~30 mbsf and 160 mbsf in Unit I, ~360 mbsf in Unit II, between 550 and 830 mbsf in Subunit IIIA, and between 950 and 1050 mbsf in Subunit IIIB. The >1000 μm fraction displays peak values of up to 80 wt% between 0 and 150 mbsf in Unit I, at 390 mbsf, 460 mbsf, and at 510 mbsf in Unit II, and throughout Unit III.

Coarse-Fraction Composition

Site 908

In general, the biogenic particle content (Fig. 3) of Site 908 is relatively low. The agglutinated benthic foraminifers of this site are restricted to the upper 2 m of the hole in Subunit IA. In Unit II up to 2 grain% of the >63 μm fraction occurs at 95 mbsf. Calcareous benthic foraminifers occur only as traces throughout the entire hole. Planktonic foraminifers occur sporadically in Subunits IA and IB and with slightly higher amounts in Subunit IC. Radiolarians and diatoms are found as traces. Sponge spicules are restricted to Subunits IB and IC with values of up to 3 grain%.

Terrigenous particle composition (Figs. 4, 5) shows the most marked variations in comparison with the biogenic particle content of this site. Angular-subrounded quartz particles are abundant in Unit I, with values of ~50 grain%. Rounded quartz particles display concentrations of up to 10 grain% at 0 to 10 mbsf and 33 to 45 mbsf in Subunit IA, and at 89 to 105 mbsf in Subunit IB. Feldspar content displays average values of ~5 grain% in Subunits IA and IB, and lower values of ~2 grain% in Subunit IC. Igneous rock fragments occur be-

tween 10 and 30 mbsf with peak values of up to 5 grain% in Subunit IA. The concentration of igneous rock fragments is lower at 3 grain% to 1 grain% in Subunits IB and IC. Metamorphic rock fragments display peak values of up to 20 grain% in Subunits IA and IB. The concentration of metamorphic rock fragments is lower than 2 grain% in Subunit IC. Sedimentary rock fragments are present throughout the hole with average values of 15 grain%. Coal fragments are present at 38, 42, 62, and 75 mbsf in Subunit IA, at 91 and 100 mbsf in Subunit IB, and at 140 mbsf in Subunit IC. Biotite mica content displays average values of approximately 1 grain% throughout the hole except in the interval from 100 to 130 mbsf in Subunit IB, where its concentration reaches values of up to 10 grain%. Muscovite mica is present with average values of 4 grain% in Subunits IA to IC. Higher concentrations (as much as 20 grain%) are recorded between 100 and 130 mbsf in Subunit IB. Volcanic glass particles display peak concentrations of up to 4 grain% at 42 mbsf in Subunit IA, at 80 to 90 mbsf and at 110 to 120 mbsf in Subunit IB, and throughout Subunit IC. Pyrite particles are common throughout the hole. Larger amounts, up to 28 grain%, occur at 40 and 75 mbsf in Subunit IA, at 101, 110, 125, and 133 mbsf in Subunit IB, and throughout Subunit IC. Glauconite is present as a trace particle in Subunits IA and IB. A drastic increase in glauconite particles occurs at the base of Subunit IC (185 mbsf), with concentrations of up to 80 grain%, which indicates a hiatus at this depth level.

Site 909

The biogenic particle content (Fig. 7) of Site 909 is low. Agglutinated benthic foraminifers occur in Units I and II as trace particles. Higher amounts of agglutinated benthic foraminifers, maximum values of up to 28 grain%, are revealed in Subunits IIIA and IIIB. Calcareous benthic foraminifers are present between 0 and 5 mbsf in Unit I, at 410 mbsf in Unit II, between 610 and 930 mbsf in Subunit IIIA and between 1000 and 1050 mbsf in Subunit IIIB. Planktonic foraminifers are restricted to Unit I between 0 and 25 mbsf. Below this level, planktonic foraminifers occur only as trace particles. Radiolarians occur only at 420 mbsf in Unit II. Sponge spicules averaged <2 grain% at 22 and 200 mbsf in Unit I, at 440 mbsf in Unit II and at 590 and 730 mbsf in Subunit IIIA. Angular-subrounded quartz (Fig. 8) is present. The maximum values are of up to 90 grain% in Unit I and up to 60 grain% in Unit II. Slightly higher concentrations of ~65 to 80 grain% display Subunits IIIA and IIIB. Rounded quartz particles display values of up to 25 grain% in Unit I and lower amounts (up to 5 grain%) in Unit II. They occur sporadically in Subunits IIIA and IIIB. Feldspar averaged concentrations of 8 grain% in Unit I, 5 grain% in Unit II, and 4 grain% in Subunits IIIA and IIIB. Igneous rock fragments averaged 5 grain% in Unit I, up to 7 grain% in Unit II, up to 4 grain% in Subunit IIIA, and 1 grain% in Subunit IIIB. Metamorphic rock fragments show values of up to 25 grain% in Unit I and up to 10 grain% in Unit II and Subunit IIIA. Metamorphic rock fragments averaged 5 to 10 grain% throughout the hole. Sedimentary rock fragments display values of up to 20 grain% in Unit I, up to 45 grain% in Unit II and up to 80 grain% in Subunits IIIA and IIIB. Coal fragments occur between 0 and 90 mbsf and at 170 mbsf in Unit I, at 290 mbsf, between 340 and 375 mbsf, and at 475 mbsf in Unit II, between 560 and 900 mbsf in Subunit IIIA, and at ~1050 mbsf in Subunit IIIB. Biotite mica (Fig. 9) displays values of up to 7 grain% between 0 and 100 mbsf in Unit I. Biotite mica shows concentrations of less than 3 grain% in Unit II, whereas this particle reaches values of up to 8 grain% between 730 and 880 mbsf in Subunit IIIA and up to as much as 5 grain% in Subunit IIIB. Muscovite mica is present throughout the hole and displays average values of 10 grain% in Unit I, of 8 grain% in Unit II, and 30 grain% in Unit III. Volcanic glass is restricted. The maximum value is <2 grain% to the depth interval between 0 and 100 mbsf in Unit I, to the depth interval between 250–300 mbsf and 490–510 mbsf in Unit II. Volcanic glass is present

throughout Unit III. The maximum value is of up to 7 grain%. Pyrite is present throughout the hole, reaching peak values of up to 40 grain% in Unit II and Subunit IIIA. Glauconite occurs in traces throughout the hole and displays values less than 6 grain% in Subunits IIIA and IIIB.

STRATIGRAPHY AND BULK ACCUMULATION RATES

The correlation of biostratigraphic data at high latitudes often suffers from the unknown paleoecological influence of extremely variable environments (Wolf and Thiede, 1991). Biostratigraphers tend to construct hiatuses, as was done in Leg 104 drill sites (Goll, 1989), which may be artifacts of the interpretation of biostratigraphic data and which do not represent real interruptions in sedimentation (Bruns et al., in press). Further investigations of Leg 104 Sites 642 and 643 of high-resolution strontium measurements, clay mineralogy measurements, and grain-size distribution, combined with the original paleomagnetic data (Bleil, 1989), indicate that Goll's proposed hiatuses in both sites can hardly be recognized (Bruns et al., in press). Therefore, it seems to be wiser to use the paleomagnetic data as a stratigraphic framework for calculating age-depth models.

The stratigraphic framework used for Sites 908 and 909 is primarily based on paleomagnetic data (Myhre, Thiede, Firth, et al., 1995) and the age-depth relationship agreed upon during the Post-Cruise Meeting. Age-depth models are shown for Sites 908 and 909 in Figures 10 and 11. The age-depth fixes are given in Table 5. One biostratigraphic age-depth fix at Site 909 (1050 mbsf is the equivalent of 16.15 Ma) was used for the age-depth model.

Bulk accumulation rate (BAR) was calculated for both sites (Figs. 12, 13). Site 908 (Figs. 10, 12), a hiatus at 185 mbsf is documented by undifferentiated Oligocene sediments overlain by a late Miocene to Pleistocene sedimentary sequence (Myhre, Thiede, Firth, et al., 1995). Coarse-fraction component studies reveal a drastic increase in glauconite particles (Fig. 5) between 184 and 185 mbsf with values of up to 80 grain%. Glauconite is thus a further indication of the occurrence of a hiatus. Based on the age-depth model for this site, continuous sedimentation from late Miocene to Pleistocene is evident. The BAR reaches values as high as $4000 \text{ gcm}^{-2}\text{my}^{-1}$ during the late Miocene and early Pliocene. BARs display an increase of up to $10,000 \text{ gcm}^{-2}\text{my}^{-1}$ during the late Pliocene. The early Pleistocene, between 2.0 and 1.2 Ma, is characterized by very low BAR values of approximately $1000 \text{ gcm}^{-2}\text{my}^{-1}$. A sharp increase in BAR to a maximum of $20,000 \text{ gcm}^{-2}\text{my}^{-1}$ is observed between 1.2 and 0.8 Ma, during the latest early and earliest middle Pleistocene. Middle to late Pleistocene BAR reaches $5500 \text{ gcm}^{-2}\text{my}^{-1}$.

Site 909 (Figs. 11, 13) reveals a continuous sedimentary sequence since the early Miocene, and BAR averages $5000 \text{ gcm}^{-2}\text{my}^{-1}$ during the early and middle Miocene. The BAR shows a maximum of $23,000 \text{ gcm}^{-2}\text{my}^{-1}$ during the late Miocene, except for a short time period between 8.5 and 7.2 Ma, where it decreased to 5000 and $10,000 \text{ gcm}^{-2}\text{my}^{-1}$. During the early Pliocene, peak values of BAR exceed $28,000 \text{ gcm}^{-2}\text{my}^{-1}$ between 5.0 and 4.4 Ma. Higher BARs, as much as $15,000 \text{ gcm}^{-2}\text{my}^{-1}$, occur in the late Pliocene and early Pleistocene. BAR decreases to $5000 \text{ gcm}^{-2}\text{my}^{-1}$ beginning at 1.1 Ma in the latest early Pleistocene and continuing to the middle and late Pleistocene.

DISCUSSION

Cenozoic Fram Strait Paleoclimate

Changes in both grain-size distribution and coarse-fraction composition are used to characterize and discuss the most significant changes in paleoceanography and its paleoclimatic implications during the Cenozoic evolution of the Fram Strait (Figs. 14–21).

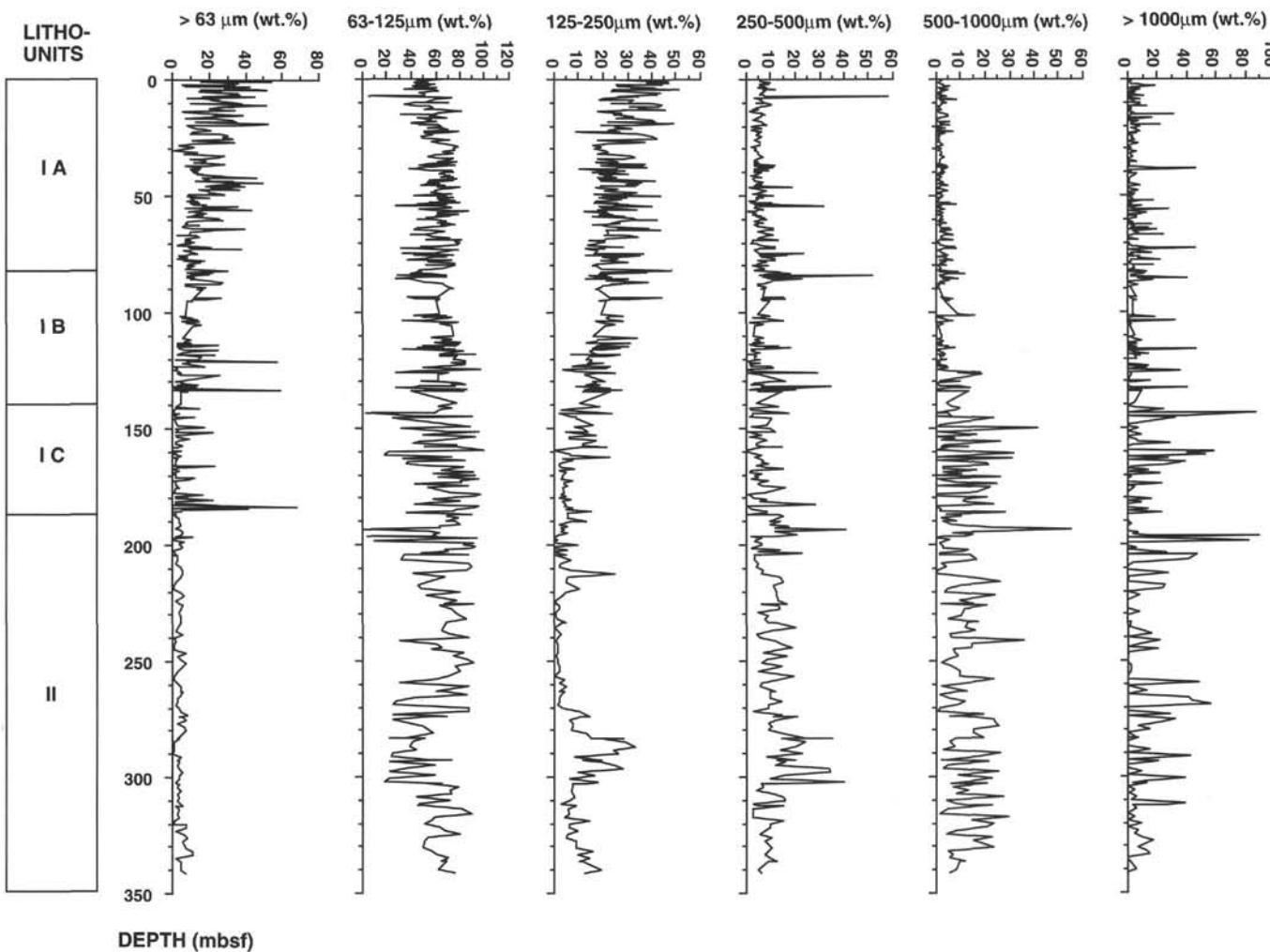


Figure 2. Distribution of $>63\text{-}\mu\text{m}$ grain-size subfractions vs. depth at Site 908.

Early and Middle Miocene

Sites 908 and 909 of Leg 151 are presently located under the influence of the EGC and WSC. The Fram Strait is the only deep-water connection between the Arctic Ocean and the North Atlantic via the Norwegian-Iceland-Greenland Sea (e.g., Myhre, Thiede, Firth, et al., 1995). The continuous record of Sites 909 (since the early Miocene) and 908 (since the late Miocene) of the paleoenvironmental development of the Fram Strait can be used as a major key for understanding gateway evolution and its consequences for global water-mass exchange to the world ocean. The early and middle Miocene is documented at Site 909. Bulk accumulation rates (Fig. 13) indicate a very uniform sediment flux. The grain-size distribution of the sediment (Fig. 15) displays a dominance of the $>1000\text{-}\mu\text{m}$ and $63\text{-}125\text{-}\mu\text{m}$ subfractions during the early Miocene. The $125\text{-}1000\text{-}\mu\text{m}$ subfraction is reduced. The early middle Miocene (16.2–14.0 Ma) is characterized by a slight decrease in the $>1000\text{-}\mu\text{m}$ subfraction. A further increase can be observed in sediments younger than 14.0 Ma. The $63\text{-}1000\text{-}\mu\text{m}$ subfraction records a similar sedimentation shift at 14.0 Ma. Between 16.2 and 14.0 Ma, the $63\text{-}1000\text{-}\mu\text{m}$ subfraction displays higher weight-percent values. Between 14.0 and 11.2 Ma, the weight-percent of the $125\text{-}1000\text{-}\mu\text{m}$ subfraction decreases. Early and middle Miocene coarse-fraction component composition documents minor variations in biogenic particle content (agglutinated and calcareous benthic foraminifers). The sedimentation shift at 14.0 Ma, as docu-

mented in the grain-size distribution and in the accumulation rate of the $>63\text{-}\mu\text{m}$ fraction, goes hand in hand with an increase in angular-subrounded quartz, rounded quartz, feldspar, rock fragments, and coal fragments indicating a compositional change in coarse fraction particle assemblage. This first occurrence of rounded quartz particles and the maximum of 80 grain% in angular to subrounded quartz and the coal fragments may reflect a first IRD contribution to sediment flux during the middle Miocene.

There are always uncertainties in the interpretation of the amount and accumulation rate of the coarse fraction ($>63\text{ }\mu\text{m}$), its particle composition (e.g., IRD) and its grain-size distribution as a climate proxy. There is no simple relationship between these parameters. Intensification of bottom current velocity may result in an increase in coarse fraction particle deposition as discussed by O'Connell et al. (this volume). Low-energy bottom currents are able to winnow the finer particle sizes of the coarse fraction (Cremer et al., this volume). Sediments derived from sea ice are generally composed of fine-grained particles (Pfirman et al., 1989; Nürnberg et al., 1994). Icebergs may contain sediments of all grain sizes. One would expect that if indeed bottom currents influence sediment deposition, the critical parameter of current velocity, in connection with grain-size and shape, plays the most important role in sediment transport. In this case, only particles of the critical grain-sizes and shapes will be deposited or eroded without any significant effect on the composition of the particle assemblage. However, as documented by our data, the

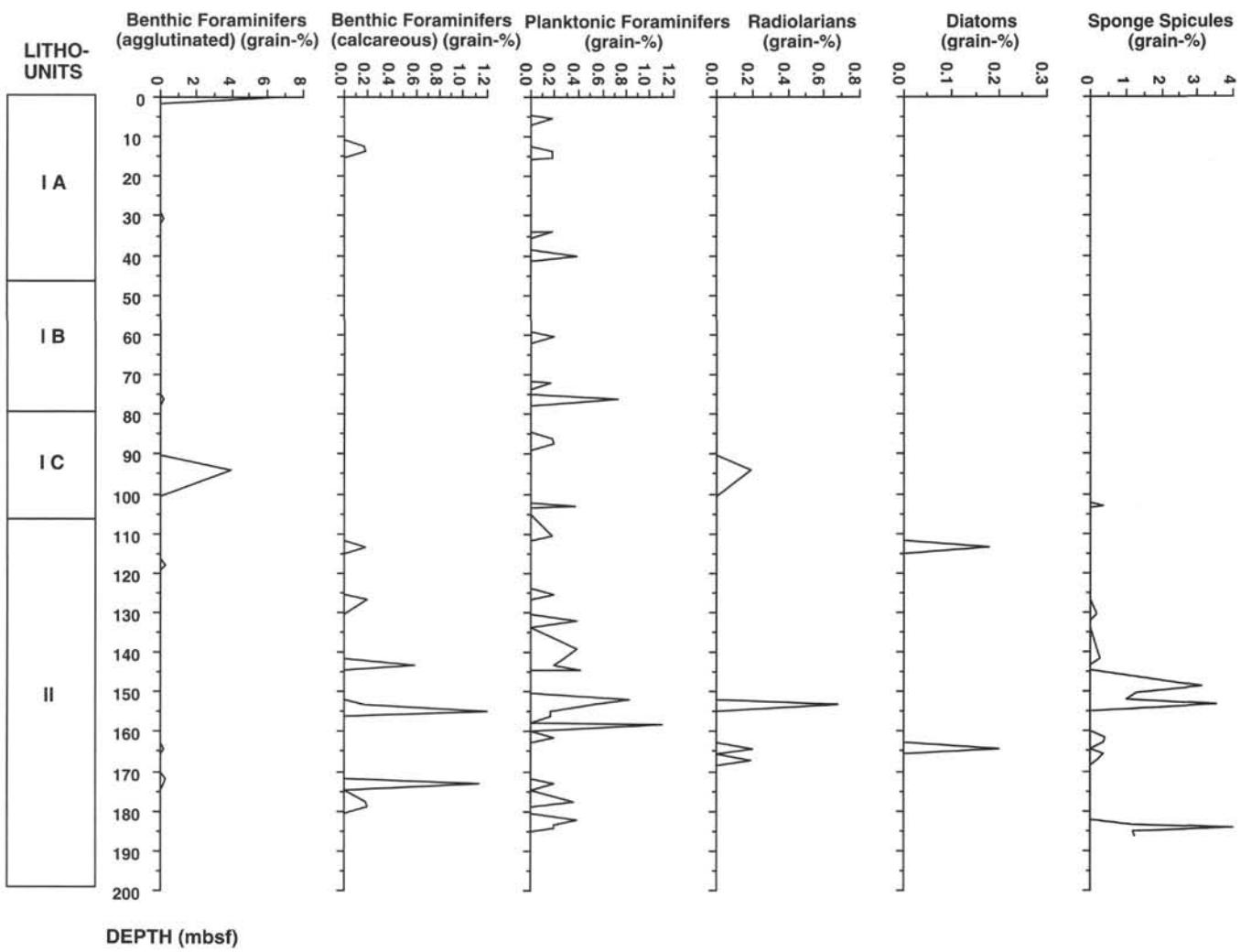


Figure 3. Coarse-fraction biogenic components vs. depth at Site 908.

BAR during the middle Miocene (~14.0 Ma) is practically constant. The AR >63 μm reaches values as high as $4000 \text{ gcm}^{-2}\text{my}^{-1}$. The terrigenous particle assemblage (quartz, feldspar, rock, and coal fragments) document the same typical glacio-marine composition found in the late Miocene (Figs. 13 and 20). While the possibility of bottom current influence exists, the compositional change in particle assemblages as demonstrated here indicates, however, a strong IRD-dominated signal during the middle Miocene (14.0 Ma). This signal is probably the result of a gradual cooling of the northern hemisphere associated with seasonal and regional restricted glaciations and sea-ice development during the middle Miocene; this idea is discussed by Fronval and Jansen (this volume). Minor amounts of terrigenous particles were also reported from Sites 643 and 642 at the Vøring Plateau (Wolf, 1991) at ~14.2 Ma.

Late Miocene

A stepwise increase in BAR and a high accumulation rate of the >63- μm fraction is revealed during the late Miocene between 10.8 Ma and 8.6 Ma. In this time interval, grain-size distribution patterns (Fig. 15) show strong fluctuations and high values in the 63–125- μm and 250–>1000- μm subfractions. The biogenic components of Site 909 (Fig. 19), that is, agglutinated and calcareous benthic forami-

fers, display their highest values at approximately 9 Ma. At ~10.5 Ma angular to subangular quartz particles reveal higher fluctuations in concentration values. At the same time, an increase in coal fragments, igneous and metamorphic rock fragments, and mica content occur. Bulk accumulation rates increase and the variation in coarse-fraction composition indicates a strong change in water-mass exchange (variation of mica content) as well as seasonal IRD events.

Apart from some possible minor tectonic adjustments, the deep-water connection between the Arctic Ocean and the Norwegian-Iceland-Greenland Sea was fully developed during the early late Miocene, since the initiation of a deep-water connection may have taken place as early as Anomaly 13 (Eldholm et al., 1989). The further connection via the sills of the Greenland-Iceland-Scotland Ridge for water-mass exchange had a sufficient depth since the early Miocene. Since the regional tectonic setting fails to explain the strengthening of water-mass exchange, we argue that the onset of the closure of the Middle and Central American Seaways (M/CAS), beginning at the latest early Miocene (~12.0 Ma), plays an important role in reorganizing water-mass circulation patterns and subsequent water-mass exchange (Droxler and Burke, 1995). The narrowing of the M/CAS led to a strengthening of the North Atlantic Drift (NAD), which then developed the potential to transport Atlantic surface-water masses to the north. As a result of a strong meridional temperature gradient, the

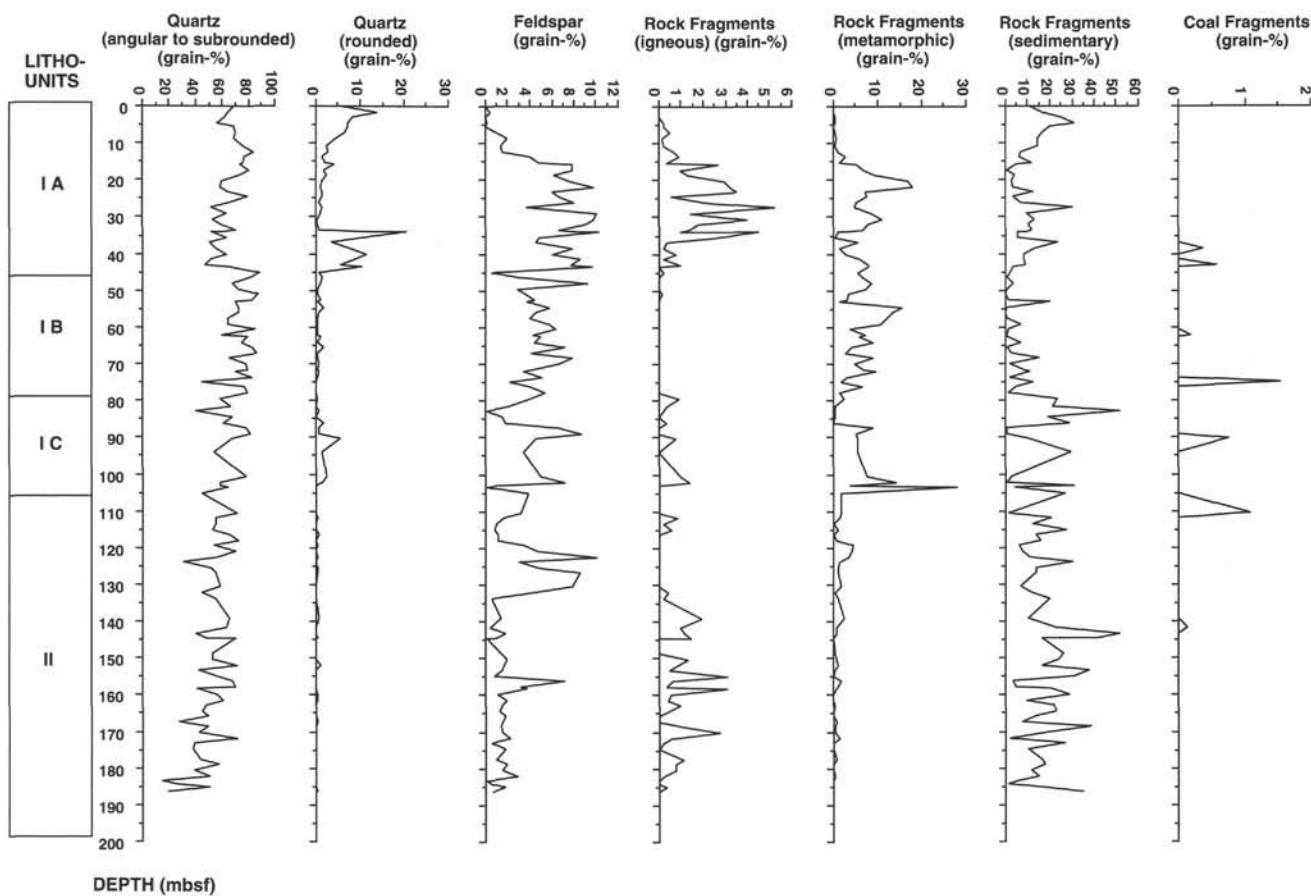


Figure 4. Coarse-fraction terrigenous components vs. depth at Site 908.

surface-water atmosphere gradient developed, which was then, in turn, able to transport moisture to the north to strengthen stepwise cooling and feed seasonal glacial conditions. Maier-Reimer et al. (1990) tested an “ocean general circulation model experiment,” which clearly demonstrated that an open isthmus would result in a decrease in poleward ocean heat transport in the North Atlantic. Additionally, the uplift of several areas may have influenced atmospheric circulation patterns and affected global climate during the Miocene (Kutzbach et al., 1993; Ruddiman et al., 1989; Ruddiman and Kutzbach, 1989).

Based on the grain-size distribution and the coarse-fraction composition of Site 909 and their interrelationships as outlined above, we assume that a drastic shift in water-mass exchange, together with seasonal IRD events, can be documented in Site 909 during the early late Miocene (10.8–8.6 Ma) and that these changes were controlled by the onset of the closure of the M/CAS. The IRD events found here between 10.5 and 8.6 Ma correspond very well to IRD events reported in the North Atlantic at Site 408 between 10.2 and 8.0 Ma (Schaeffer and Spiegler, 1986) and Site 646 starting at 9.5 Ma (Wolf and Thiede, 1991).

During the latest late Miocene, between 8.6 and 5.4 Ma, BAR and the <63- μm fraction (Fig. 13) document a second stepwise increase in sediment accumulation with peak values between 7.2 Ma and 6.8 Ma. Grain-size analyses (Fig. 15) of the 63 to >1000- μm subfraction indicate a strong fluctuation in grain size and high values in the 250 to >1000- μm subfraction during this time span. Biogenic component composition (Fig. 19) shows no clear signal. Terrigenous component composition (Fig. 20) reveals an increase in angular to subrounded

and rounded quartz, feldspar, rock fragments, and mica particle amounts between 8.6 and 5.4 Ma. During the late Miocene between 6.2 and 5.4 Ma, just above the hiatuses, a short sediment sequence at Site 908 is documented. Sedimentation patterns are similar to those of Site 909. Accumulation rates of the >63- μm fraction display high values (Fig. 12). Grain-size distribution (Fig. 11) documents strong fluctuations and higher amounts of the coarser subfractions (250 to >1000 μm). Biogenic components (Fig. 16) are generally rare. Terrigenous components (Figs. 17, 18) display stronger fluctuations and high grain-percent values at Sites 908 and 909.

We interpret the interval to be a second stage of further cooling of the Northern Hemisphere with a strengthening of seasonal IRD events in the late Miocene between 8.6 and 5.4 Ma. During this time interval IRD events were reported from Sites 645 (Baffin Bay, 8.0 Ma) and 646 (Labrador Sea, since 9.5 Ma) of Leg 105 (Korstgård and Nielsen, 1989; Wolf and Thiede, 1991), from Sites 642 and 643 (Vøring Plateau, since 8.5 Ma) of Leg 104 (Jansen et al., 1990; Wolf and Thiede, 1991) as well as from Site 408 (Irminger Sea, between 10.2 and 8.0 Ma) of DSDP Leg 492 (Schaeffer and Spiegler, 1986). First IRD events on the Iceland Plateau (Site 907, Leg 151) is observed at 7.0 Ma (Myhre, Thiede, Firth, et al., 1995).

Paleontological data indicating faunal and floral change from warm- to cold-adapted forms are reported for the time interval of 9.0 Ma to 8.0 Ma. Investigations of dinoflagellate assemblages at DSDP Site 408 show a cold-adapted dinocyst assemblage transport from polar regions to the south at ~8.5 Ma (Engel, 1989). The change in the cooling ratio of *Neogloboquadrina atlantica* (Site 646) indicates a cooling event at ~9.0 Ma (Kaminski et al., 1989). Several cooling

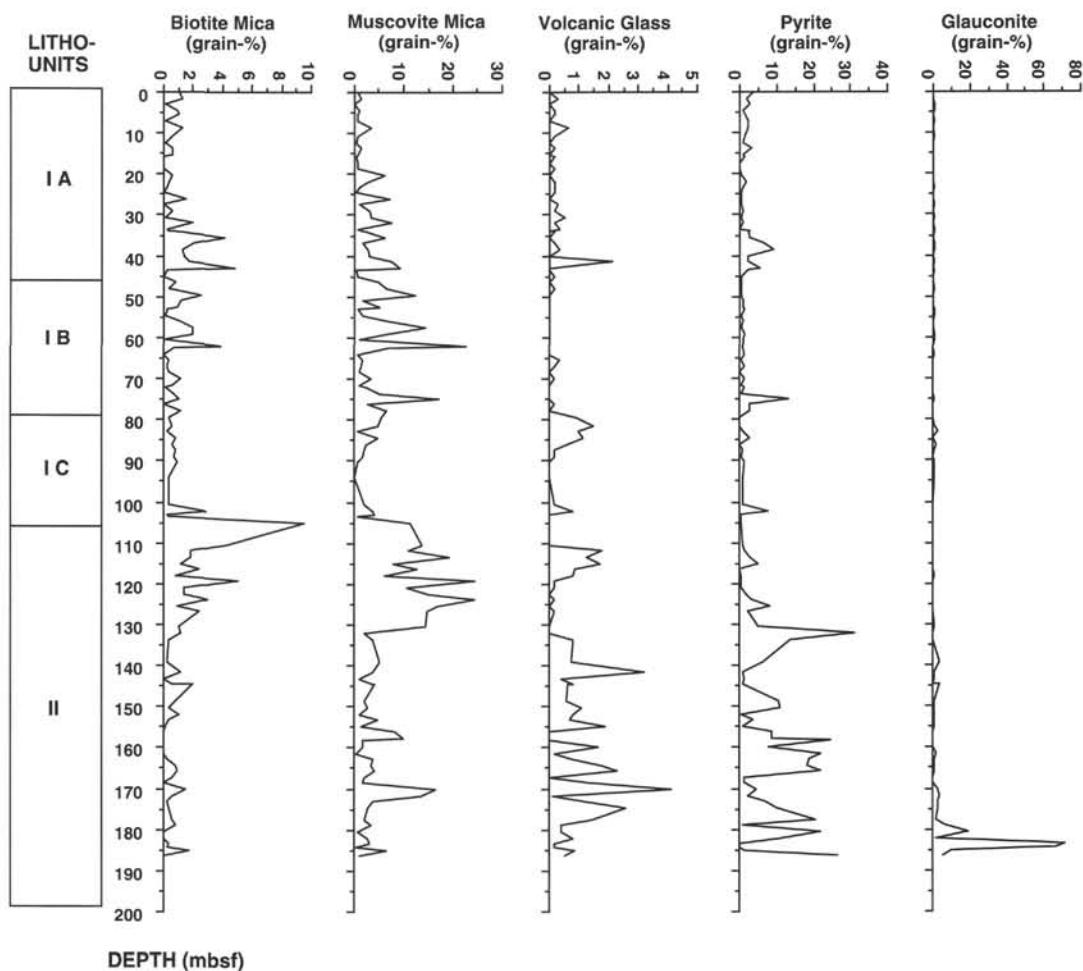


Figure 5. Coarse-fraction terrigenous/volcanic and authigenic components vs. depth at Site 908.

events recorded in the circumarctic region are also reported by Mudie et al. (1990).

Based on these investigations we are able to distinguish between two major cooling events during the late Miocene. Cold intervals occur between 10.5 and 8.6 Ma and between 7.5 and 6.2 Ma. We dated the initiation of the EGC back to 10.5 Ma as documented by an increase in BAR and terrigenous coarse-fraction particle composition at Site 909. The initiation of the EGC as part of a reorganization of global ocean circulation patterns is seen to be caused by a further narrowing of the M/CAS and by the strengthening of the Caribbean Current, which contributes its water masses to the NAD (Droxler and Burke, 1995), at ~10.0 Ma. The second cooling phase, between 7.5 and 6.2 Ma, documents the final reorganization of the paleoceanographic scenario outlined above. The final closure of the M/CAS is dated at 6.0 Ma (Droxler and Burke, 1995).

Pliocene

Pliocene sediments from Sites 908 and 909 are characterized by strong fluctuations in BAR starting at 5.0 Ma. Accumulation rates for the >63 µm subfraction begin to increase at 5.0 Ma at Site 909 and at ~4.2 Ma at Site 908. The grain-size distribution of the 250 to >1000 µm subfraction displays somewhat higher values during the early Pliocene at Site 908 (Fig. 14). In contrast, Site 909 displays lower

values in the 250 to >1000 µm subfraction (Fig. 15). During the late Pliocene the values of the subfraction are higher at Site 909 (Fig. 15). Biogenic components are practically absent from Site 909 (Fig. 19) and from Site 908 (Fig. 16) during the Pliocene. Traces of biogenic components display some variations in occurrence during the early Pliocene. The occurrence of biosiliceous particles (radiolarians and sponge spicules) is remarkable in this time span. A variety of terrigenous components are present with high fluctuations throughout the Pliocene. This indicates that both sites were located within the realm of the influence of the polar front system. Grain-size distribution patterns at Site 908 point to the possibility that Site 908 was located near the polar front during the early Pliocene with seasonal open-ice conditions. The occurrence of biosiliceous particles during the early Pliocene gives further evidence of a proximity to the polar front. During the late Pliocene conditions changed, since the amounts of coarser grain sizes (Fig. 14) of the 250 to >1000-µm subfraction decrease. This implies that the polar front was located closer to Site 908, with a subsequent reduction in coarse-particle sedimentation. Based on BAR, grain-size distribution patterns and coarse-fraction composition of Sites 908 and 909, the typical glacial/interglacial sedimentary pattern as reported from Leg 104 sediments (Henrich et al., 1989; Jansen and Sjøholm, 1991; Wolf and Thiede, 1991) can be observed as beginning between 5.0 and 4.8 Ma. Both sites were located near the polar front during the early Pliocene under seasonal open water

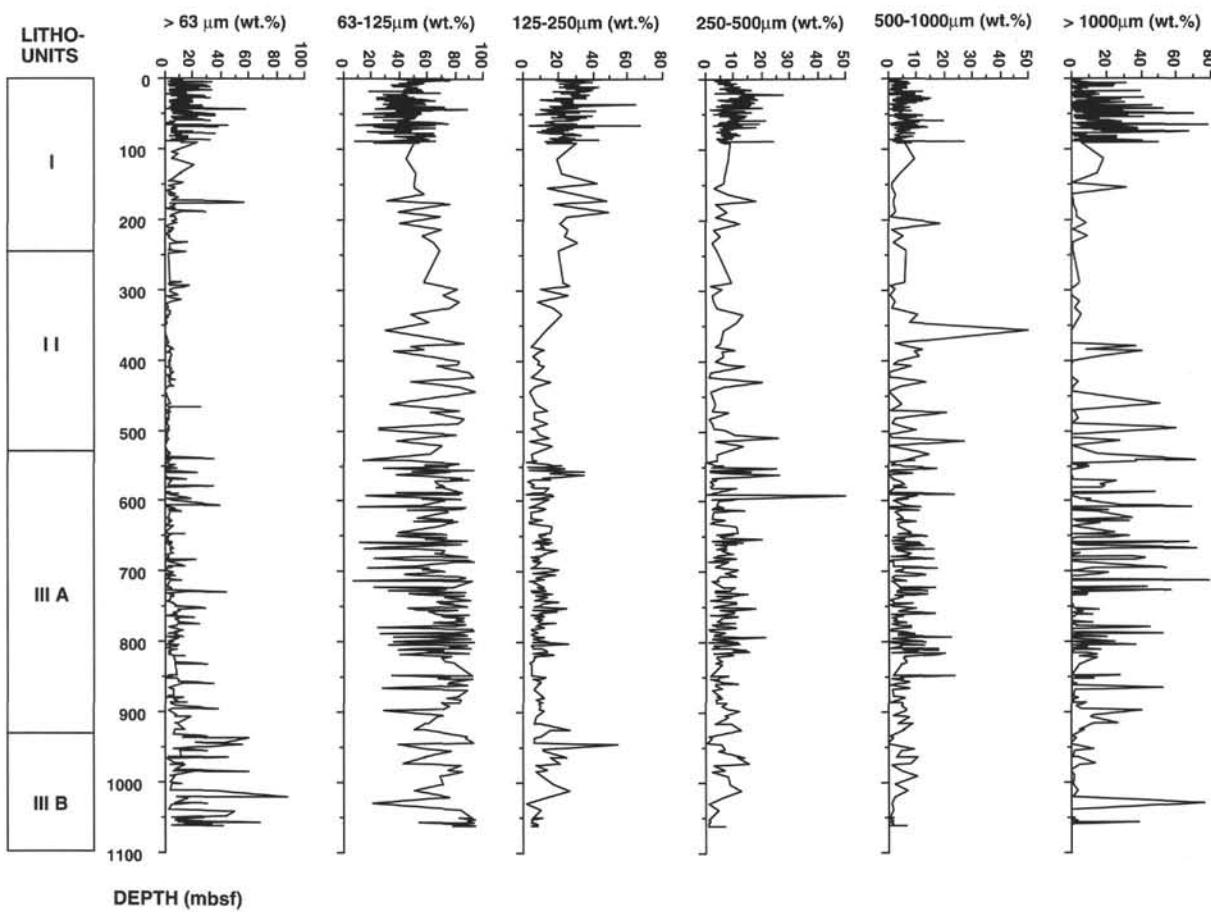


Figure 6. Distribution of $>63\text{-}\mu\text{m}$ grain-size subfractions vs. depth at Site 909.

conditions. During the late Pliocene Site 908 was located under the stronger influence of the polar front with reduced time intervals of open water conditions.

Pleistocene

During the Pleistocene BAR are reduced to extremely low values at Site 908 between 1.9 and 1.2 Ma. Grain-size distribution patterns reveal a drastic decrease in coarse grain size in the 125 to $>1000\text{-}\mu\text{m}$ subfractions. BAR are increased to the highest values between 1.2 and 0.8 Ma. During the same time span grain-size distributions display an increase in values for the 125 to $>1000\text{ }\mu\text{m}$ subfractions. We propose that during the early Pleistocene Site 908 was totally overlain by the polar front and fully covered by sea ice and pack ice between 1.9 and 1.2 Ma. These changes in conditions took place during the latest early Pleistocene, beginning at 1.2 Ma. Since then, Site 908 has been under the influence of seasonal open water conditions. By contrast, the grain-size distribution patterns found at Site 909 display strong fluctuations and high values of the 63 to $>1000\text{ }\mu\text{m}$ subfractions (Fig. 15) throughout the Pleistocene, indicating that Site 909 was always located under seasonal open water conditions. These observations indicate that the WSC was able to periodically reach the Fram Strait region in the Pleistocene. As a result, coarse-fraction oscillations in grain size (Figs. 14, 15) as well as in composition (Figs. 16–21) are documented during the Pleistocene.

Henrich (1989) discussed an overall cool glacial climate in the Norwegian Sea, where only episodically weak intrusions of North

Atlantic waters were restricted close to the Norwegian Shelf between 2.6 and 1.0 Ma. Our data clearly indicate that the warmer WSC as a branch of the Norwegian Current, which is fed by the warm NAD waters, periodically reaches the Fram Strait and, therefore, indicates an episodically fully developed Norwegian Current during Pliocene–Pleistocene times.

CONCLUSIONS

Based on the BAR, accumulation rates of the $>63\text{ }\mu\text{m}$ fraction, grain-size distribution patterns and coarse-fraction component variability of sediments from Sites 908 and 909, we conclude the following:

1. Seasonal ice-rafting begins at Site 909 possibly as early as 14.0 Ma during the middle Miocene.
2. A clear signal of ice-rafting is observed between 10.8 and 8.6 Ma, between 7.2 and 6.8 Ma, and since 6.3 Ma during the late Miocene.
3. The initiation and further strengthening of the EGC can be observed since 10.5 Ma during the earliest late Miocene. The main cause of this phenomenon is seen in the gradual development of the NAD, possibly controlled by the narrowing and closure of the M/CAS.
4. During the Pliocene, between 5.0 and 4.8 Ma, sedimentation at both sites documents a strong glacial/interglacial cycle.

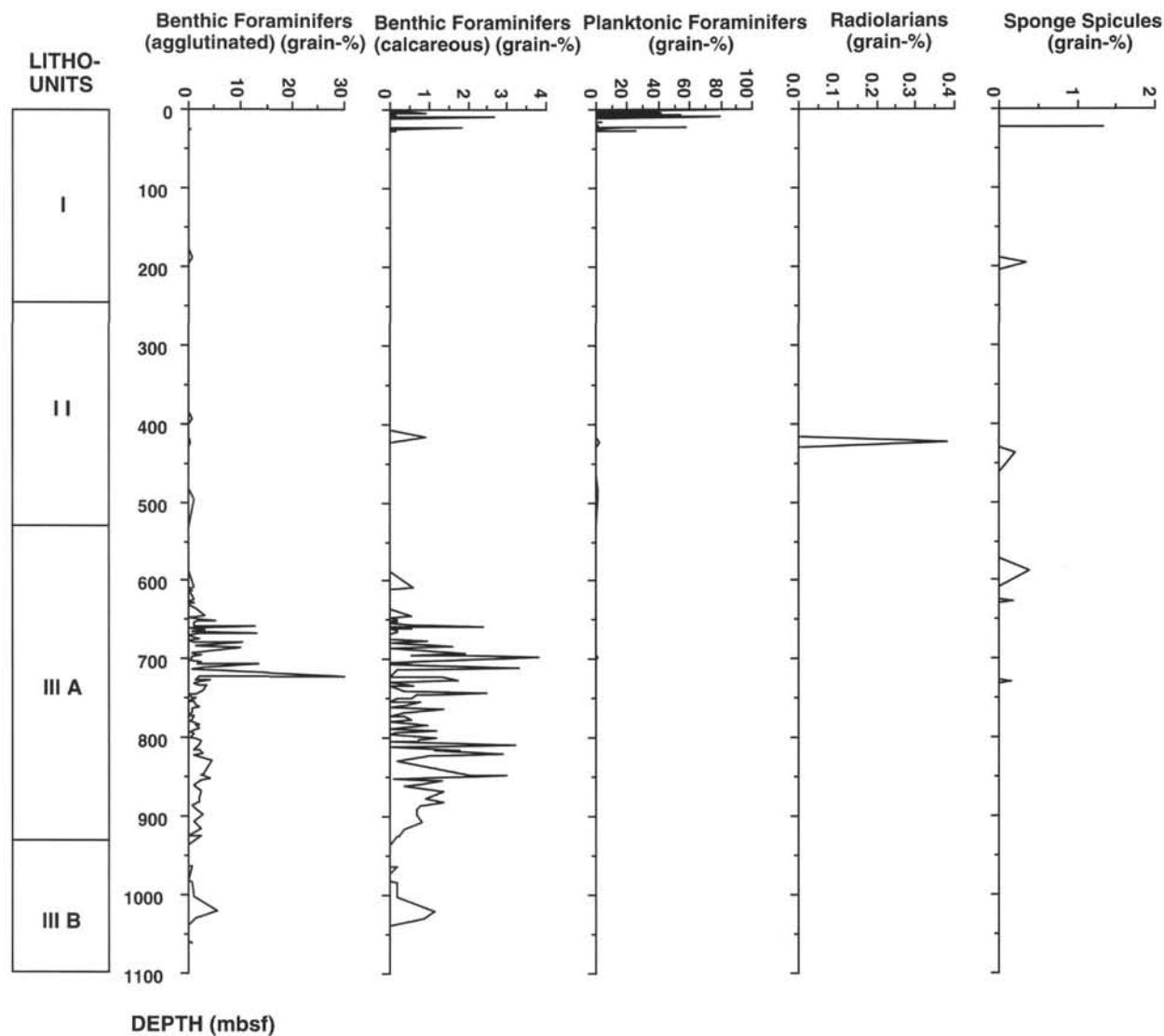


Figure 7. Coarse-fraction biogenic components vs. depth at Site 909.

5. Both sites are located near the polar front under seasonal open-water conditions during the early Pliocene.
6. Site 908 was covered by sea ice and pack ice during the early Pleistocene between 1.9 and 1.2 Ma, whereas Site 909 was located under seasonal open water conditions at the same time.
7. During the latest early Pleistocene (since 1.1 Ma) both sites document a high fluctuation in glaciomarine sedimentation, indicating that the WSC reaches the Fram Strait during interglacial periods.

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Table 1. Hole 908A bulk accumulation rate (BAR), coarse-fraction accumulation rate, and coarse fraction weights.

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y. ⁻¹)	>63 µm (wt%)	DBD (gcm ⁻³)	Bulk AR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	>1000 µm (wt%)	
151-908A-													
IH-1, 10–12	0.10–0.11	0.002	4417	11.59	1.30	5755	667	65.62	25.09	6.24	2.04	1.00	
IH-1, 48–51	0.48–0.50	0.011	4417	54.19	1.31	5777	3131	46.79	42.75	5.84	2.34	2.28	
IH-1, 90–93	0.90–0.92	0.021	4417	15.70	1.31	5801	911	45.35	45.97	5.85	1.26	1.57	
IH-1, 140–143	1.40–1.42	0.032	4417	35.99	1.32	5828	2098	42.14	46.95	9.61	1.10	0.21	
IH-2, 10–12	1.60–1.61	0.036	4417	29.37	1.32	5839	1715	53.76	37.59	6.91	1.01	0.74	
IH-2, 48–51	1.98–2.00	0.045	4417	34.07	1.45	6405	2182	43.75	43.81	8.63	1.81	2.00	
IH-2, 92–94	2.42–2.43	0.055	4417	5.81	1.09	4815	280	58.87	25.66	5.78	2.54	7.16	
IH-2, 142–144	2.92–2.93	0.066	4417	7.15	1.34	5907	422	52.96	26.43	5.66	3.01	11.93	
IH-3, 9–11	3.09–3.10	0.070	4417	42.52	1.34	5915	2515	40.73	28.13	7.15	5.43	18.57	
IH-3, 49–51	3.49–3.50	0.079	4417	28.58	1.34	5935	1696	43.87	41.56	8.32	2.60	3.65	
IH-3, 91–93	3.91–3.92	0.089	4417	33.21	1.41	6228	2069	60.15	31.56	4.58	0.96	2.75	
IH-4, 138–140	4.38–4.39	0.099	4417	51.18	1.35	5977	3059	33.91	51.37	11.72	2.35	0.65	
IH-4, 9–11	4.59–4.60	0.104	4417	15.30	1.36	5987	916	57.26	23.86	6.73	4.63	7.52	
IH-5, 52–54	5.02–5.03	0.114	4417	26.26	1.36	6006	1577	61.64	23.36	6.90	3.09	5.00	
IH-CC, 8–10	5.25–5.26	0.119	4417	14.81	1.36	6017	891	59.13	28.59	7.27	2.26	2.74	
2H-1, 10–11	5.50–5.51	0.125	4417	33.13	1.36	6028	1997	49.90	43.16	6.12	0.65	0.17	
2H-1, 49–51	5.89–5.90	0.134	4417	35.98	1.37	6044	2175	47.45	39.64	6.09	1.73	5.08	
2H-1, 91–93	6.31–6.32	0.143	4417	31.34	1.49	6581	2062	51.32	42.28	5.48	0.49	0.43	
2H-1, 140–144	6.80–6.82	0.154	4417	36.77	1.49	6581	2420	51.68	40.03	6.88	0.74	0.67	
2H-2, 9–11	6.99–7.00	0.158	4417	16.80	1.52	6714	1128	51.62	26.27	7.64	4.11	10.35	
2H-2, 49–51	7.39–7.40	0.168	4417	45.23	1.54	6802	3077	4.90	34.33	58.10	1.41	1.25	
2H-2, 92–94	7.82–7.83	0.177	4417	8.38	1.54	6802	570	71.89	21.21	3.98	2.00	0.93	
2H-2, 141–142	8.31–8.32	0.188	4417	16.24	1.22	5389	875	73.57	21.03	3.75	0.91	0.74	
2H-3, 11–13	8.51–8.52	0.193	4417	25.38	1.22	5389	1368	59.20	18.41	6.25	8.23	7.92	
2H-3, 47–49	8.87–8.88	0.201	4417	21.59	1.32	5830	1259	59.45	32.32	5.84	1.66	0.73	
2H-3, 140–142	9.80–9.81	0.222	4417	38.06	1.50	6626	2522	51.51	30.26	7.81	4.29	6.12	
2H-4, 9–12	9.99–10.01	0.227	4417	21.95	1.50	6626	1454	70.61	23.16	4.16	2.07	0.00	
2H-4, 49–52	10.39–10.41	0.236	4417	10.28	1.50	6626	681	42.28	39.13	7.94	2.87	7.78	
2H-4, 90–93	10.80–10.82	0.245	4417	51.63	1.18	5212	2691	34.79	44.34	10.57	2.06	8.24	
2H-4, 142–145	11.32–11.33	0.257	4417	25.95	1.53	6758	1754	45.87	42.84	7.88	1.61	1.79	
2H-5, 8–11	11.48–11.50	0.260	4417	33.33	1.52	6714	2238	47.62	30.79	7.60	1.23	12.75	
2H-5, 44–47	11.84–11.86	0.268	4417	28.43	1.52	6714	1909	54.63	37.92	6.32	0.92	0.21	
2H-5, 90–93	12.30–12.32	0.279	4417	20.60	1.52	6714	1383	57.35	34.58	4.20	1.37	2.50	
2H-6, 138–141	12.78–12.80	0.290	4417	29.52	1.42	6272	1852	51.29	45.19	2.55	0.61	0.37	
2H-6, 8–11	12.98–13.00	0.294	4417	34.24	1.48	6537	2238	64.93	28.13	3.86	1.52	1.57	
2H-6, 48–51	13.38–13.40	0.303	4417	34.48	1.48	6537	2254	60.29	30.04	4.83	2.41	2.44	
2H-6, 92–95	13.82–13.84	0.313	4417	5.69	1.48	6537	372	80.87	17.60	1.09	0.44	0.00	
2H-7, 24–26	14.28–14.29	0.324	4417	16.44	1.33	5875	966	62.72	27.54	4.96	1.59	3.19	
2H-7, 138–141	14.64–14.66	0.332	4417	20.67	1.62	7156	1479	65.43	24.06	5.92	1.83	2.76	
2H-7, 59–61	14.99–15.00	0.340	4417	33.95	1.46	6449	2190	57.86	24.63	7.26	4.83	5.42	
3H-1, 9–11	14.99–15.00	0.340	4417	23.44	1.46	6449	1511	31.47	25.11	7.54	4.40	31.48	
2H-CC, 9–12	15.22–15.24	0.345	4417	38.25	1.46	6449	2467	60.30	26.70	6.49	4.65	1.86	
3H-1, 90–93	15.80–15.82	0.358	4417	21.26	1.44	6367	1354	55.21	32.07	6.09	4.91	1.72	
3H-1, 140–143	16.30–16.32	0.369	4417	7.17	1.44	6379	457	69.64	25.41	4.05	0.90	0.00	
3H-2, 9–11	16.49–16.50	0.374	4417	11.32	1.70	7509	850	45.77	31.93	4.51	1.34	16.45	
3H-2, 49–52	16.89–16.91	0.383	4417	23.02	1.50	6626	1525						
3H-2, 93–96	17.33–17.35	0.393	4417	33.07	1.45	6402	2117	56.65	40.11	3.05	0.00	0.19	
3H-2, 140–143	17.80–17.82	0.403	4417	34.54	1.45	6411	2215	51.87	41.29	6.29	0.54	0.00	
3H-3, 9–11	17.99–18.00	0.408	4417	12.90	1.45	6415	828	60.47	21.83	6.08	5.23	6.40	
3H-3, 90–93	18.80–18.82	0.426	4417	52.47	1.46	6432	3375	40.00	49.20	7.00	1.49	2.31	
3H-3, 145–148	19.35–19.37	0.438	4417	34.79	1.54	6802	2366	53.22	31.20	8.36	3.70	3.52	
3H-4, 9–11	19.49–19.50	0.441	4417	29.91	1.46	6444	1928	47.16	19.10	6.64	5.33	21.77	
3H-4, 47–50	19.87–19.89	0.450	4417	8.72	1.46	6451	563	61.79	27.10	6.44	2.70	1.97	
3H-4, 93–96	20.33–20.35	0.461	4417	10.31	1.46	6459	666	65.05	24.87	2.33	0.12	7.62	
3H-4, 140–143	20.80–20.82	0.471	4417	13.55	1.46	6467	876	53.72	31.86	6.00	3.57	4.85	
3H-5, 9–11	20.99–21.00	0.475	4417	16.36	1.46	6470	1058	66.03	27.57	4.53	0.06	1.80	
3H-5, 93–96	21.83–21.85	0.495	4417	21.26	1.47	6484	1379	70.17	22.09	1.77	0.00	5.97	
3H-5, 140–143	22.30–22.32	0.505	4417	10.72	1.47	6491	696	51.45	26.92	5.93	7.22	8.48	
3H-6, 9–11	22.49–22.50	0.509	4417	12.65	1.47	6494	822	78.77	9.10	4.15	0.21	7.77	
3H-6, 50–53	22.90–22.92	0.519	4417	10.28	1.47	6493	667	62.04	30.68	5.19	1.38	0.71	
3H-6, 90–93	23.30–23.32	0.528	4417	25.56	1.47	6505	1663	51.27	33.58	5.84	3.63	5.68	
3H-CC, 9–11	23.69–23.70	0.537	4417	30.13	1.47	6510	1962	57.94	37.66	3.84	0.35	0.21	
4H-1, 9–11	24.49–24.50	0.555	4417	27.68	1.48	6521	1805	48.46	40.66	5.90	1.40	3.58	
4H-1, 88–91	25.28–25.30	0.573	4417	33.14	1.66	7332	2430	49.59	42.24	5.17	0.58	2.42	
4H-2, 9–11	25.99–26.00	0.589	4417	10.61	1.48	6538	694	72.05	18.26	3.56	1.61	4.53	
4H-2, 92–94	26.82–26.83	0.607	4417	34.02	1.66	7332	2494	56.31	37.22	5.28	0.99	0.20	
4H-3, 9–11	27.49–27.50	0.623	4417	11.45	1.48	6554	750	63.47	21.94	5.55	2.31	6.74	
4H-3, 92–94	28.32–28.33	0.641	4417	3.44	1.20	5300	182	73.38	16.02	5.43	3.04	2.12	
4H-4, 9–11	28.99–29.00	0.657	4417	12.34	1.49	6567	810	78.27	19.51	1.88	0.34	0.00	
4H-4, 90–93	29.80–29.82	0.675	4417	6.13	1.17	5168	317	74.77	16.82	4.48	2.09	1.84	
4H-5, 9–11	30.49–30.50	0.691	4417	0.86	1.11	4903	42	75.29	20.79	3.17	0.76	0.00	
4H-5, 90–93	31.30–31.32	0.709	4417	14.10	1.59	7023	990	65.62	21.90	4.73	2.09	5.67	
4H-6, 9–11	31.99–32.00	0.724	4417	6.87	1.49	6589	453	74.22	17.63	4.81	1.82	1.52	
4H-6, 92–95	32.82–32.84	0.743	4417	28.84	1.62	7156	2064	59.31	31.22	5.45	1.60	2.42	
4H-7, 9–11	33.49–33.50	0.758	4417	24.68	1.49	6597	1628	53.98	33.10	6.66	3.33	2.93	
5H-1, 10–12	34.00–34.01	0.770	4417	15.30	1.49	6600	1010	64.18	28.06	4.91	2.21	0.63	
4H-CC, 7–9	34.10–34.11	0.772	4417	11.92	1.49	6600	78						

Table 1 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y. ⁻¹)	>63 µm (wt%)	DBD (g cm ⁻³)	Bulk AR (g cm ⁻² m.y. ⁻¹)	>63 µm AR (g cm ⁻² m.y. ⁻¹)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	>1000 µm (wt%)
5H-3, 140–142	38.30–38.31	0.837	6716	10.46	1.50	10074	1054	44.39	25.51	6.62	3.34	20.14
5H-4, 10–12	38.50–38.51	0.840	6716	14.55	1.50	10059	1463	37.98	10.11	3.52	2.28	46.11
5H-4, 46–48	38.86–38.87	0.845	6716	13.27	1.50	10060	1335	55.70	29.09	9.05	3.00	3.16
5H-4, 91–93	39.31–39.32	0.852	6716	11.30	1.50	10061	1137	73.02	19.84	3.71	2.20	1.23
5H-4, 140–142	39.80–39.81	0.859	6716	14.12	1.50	10063	1421	74.73	15.68	3.78	3.29	2.53
5H-5, 10–12	40.00–40.01	0.862	6716	12.06	1.53	10275	1239	67.75	23.33	5.98	1.94	0.99
5H-5, 46–48	40.36–40.37	0.868	6716	16.73	1.53	10275	1719	62.80	30.41	4.61	0.97	1.21
5H-5, 91–93	40.81–40.82	0.874	6716	13.40	1.53	10275	1377	67.73	18.40	5.16	2.80	5.91
5H-5, 140–142	41.30–41.31	0.882	6716	27.89	1.50	10074	2810	67.92	23.77	2.96	0.56	4.79
5H-6, 10–12	41.50–41.51	0.885	6716	21.79	1.70	11417	2487	71.60	20.82	2.21	0.88	4.50
5H-6, 43–45	41.83–41.84	0.890	6716	45.52	1.70	11417	5197	64.79	25.18	6.03	2.14	1.86
5H-6, 91–93	42.31–42.32	0.897	6716	16.78	1.53	10275	1725	74.97	17.68	3.38	1.56	2.41
5H-6, 140–142	42.80–42.81	0.904	6716	20.55	1.50	10068	2069	72.45	22.70	2.63	1.07	1.15
5H-7, 10–12	43.00–43.01	0.907	6716	18.45	1.64	11014	2032	77.46	18.75	2.54	0.98	0.27
5H-7, 46–48	43.36–43.37	0.912	6716	16.12	1.64	11014	1776					
6H-1, 9–11	43.49–43.50	0.914	6716	33.19	1.64	11014	3656	54.50	41.53	3.21	0.32	0.44
5H-CC, 10–12	43.64–43.65	0.916	6716	12.57	1.64	11014	1384	73.85	19.34	3.69	1.64	1.47
6H-1, 48–51	43.88–43.90	0.920	6716	49.64	1.64	11014	5467	53.31	35.69	6.72	2.60	1.67
6H-1, 89–92	44.29–44.31	0.926	6716	28.10	1.62	10880	3057	57.21	32.32	7.13	2.40	0.93
6H-1, 140–143	44.80–44.82	0.934	6716	36.91	1.62	10880	4016	64.00	29.97	4.25	1.02	0.75
6H-2, 9–11	44.99–45.00	0.937	6716	26.43	1.50	10069	2661	54.32	34.36	6.02	2.92	2.37
6H-2, 48–51	45.38–45.40	0.942	6716	18.54	1.50	10069	1867	48.62	32.98	4.97	4.82	8.61
6H-2, 90–93	45.80–45.82	0.949	6716	39.22	1.50	10069	3949	67.95	19.21	3.40	2.02	7.42
6H-2, 140–143	46.30–46.32	0.956	6716	21.33	1.66	11149	2378	61.95	18.38	18.49	0.66	0.53
6H-3, 9–11	46.49–46.50	0.959	6716	22.61	1.66	11149	2520	80.07	16.96	1.44	1.31	0.21
6H-3, 48–51	46.88–46.90	0.965	6716	37.23	1.66	11149	4151	67.78	26.02	4.57	0.74	0.89
6H-3, 90–93	47.30–47.32	0.971	6716	14.56	1.58	10611	1545	66.84	25.37	4.66	1.75	1.38
6H-4, 9–11	47.99–48.00	0.981	6716	20.22	1.58	10611	2145	59.23	20.61	7.98	4.74	7.45
6H-4, 46–49	48.36–48.38	0.984	11846	20.09	1.58	18717	3760	60.32	33.05	5.31	0.70	0.62
6H-4, 89–92	48.79–48.81	0.988	11846	23.16	1.64	19427	4498	56.10	34.08	6.30	2.01	1.51
6H-4, 140–143	49.30–49.32	0.992	11846	28.77	1.32	15637	4499	66.88	27.61	3.01	0.90	1.61
6H-5, 9–11	49.49–49.50	0.994	11846	9.27	1.32	15637	1449	72.89	16.68	3.80	2.30	4.34
6H-5, 45–48	49.85–49.87	0.997	11846	8.73	1.32	15637	1365	42.65	43.26	10.75	2.30	1.03
6H-5, 90–93	50.30–50.32	1.001	11846	7.84	1.50	17750	1392	69.10	19.66	4.62	2.82	3.80
6H-5, 140–143	50.80–50.82	1.005	11846	20.08	1.50	17748	3564	62.02	29.35	6.77	1.84	0.02
6H-6, 9–11	50.99–51.00	1.007	11846	9.89	1.50	17748	1755	75.06	18.78	4.01	1.03	1.12
6H-6, 47–50	51.37–51.39	1.010	11846	12.39	1.50	17746	2199	62.68	27.71	4.73	1.69	3.19
6H-6, 90–93	51.80–51.82	1.013	11846	8.63	1.50	17744	1532	75.65	19.35	3.34	0.86	0.79
6H-6, 140–143	52.30–52.32	1.018	11846	13.79	1.50	17742	2447	62.84	17.48	1.63	0.44	17.60
6H-7, 9–11	52.49–52.50	1.019	11846	13.36	1.50	17742	2371	68.74	18.18	2.95	0.49	9.64
6H-7, 47–50	52.87–52.89	1.022	11846	11.27	1.50	17740	1999	76.56	19.33	2.62	0.57	0.92
7H-1, 9–11	52.99–53.00	1.023	11846	15.02	1.50	17739	2665	54.72	26.20	10.35	5.33	3.39
6H-CC, 9–11	53.14–53.15	1.025	11846	10.51	1.50	17739	1864	80.27	16.87	2.14	0.49	0.23
7H-1, 48–50	53.38–53.39	1.027	11846	11.50	1.50	17737	2040	45.79	30.15	13.39	8.12	2.56
7H-1, 90–92	53.80–53.81	1.030	11846	18.79	1.50	17735	3333	69.40	24.83	3.59	1.30	0.89
7H-1, 140–142	54.30–54.31	1.035	11846	16.16	1.25	14808	2393	27.72	40.17	31.53	0.53	0.05
7H-2, 9–11	54.49–54.50	1.036	11846	35.48	1.25	14808	5254	65.08	18.86	4.18	2.29	9.59
7H-2, 52–54	54.92–54.93	1.040	11846	7.15	1.25	14808	1059	73.24	20.19	3.45	0.98	2.15
7H-2, 90–92	55.30–55.31	1.043	11846	14.36	1.61	19072	2738	73.79	21.51	3.52	0.94	0.23
7H-2, 140–142	55.80–55.81	1.047	11846	43.08	1.61	19072	8216	51.11	34.06	6.88	3.71	4.24
7H-3, 11–13	56.01–56.02	1.094	445	18.51	1.81	805	149	46.22	17.99	5.01	2.88	27.90
7H-3, 47–49	56.37–56.38	1.175	445	9.15	1.53	681	62	73.40	21.37	4.26	0.96	0.00
7H-3, 90–92	56.80–56.81	1.272	445	11.90	1.53	681	81	86.89	12.13	0.75	0.22	0.00
7H-3, 140–142	57.30–57.31	1.384	445	18.71	1.50	666	125	62.18	22.28	3.23	2.93	9.38
7H-4, 10–12	57.50–57.51	1.429	445	14.55	1.50	665	97	62.45	19.11	3.67	2.12	12.65
7H-4, 48–50	57.88–57.89	1.515	445	12.34	1.50	665	82	61.71	24.09	4.30	2.05	7.84
7H-4, 90–92	58.30–58.31	1.609	445	16.39	1.50	665	109	78.07	18.60	2.70	0.22	0.41
7H-4, 140–142	58.80–58.81	1.721	445	8.36	1.30	579	48	60.91	29.30	6.54	2.53	0.73
7H-5, 10–12	59.00–59.01	1.767	442	10.45	1.30	575	60	71.32	16.20	4.38	2.53	5.58
7H-5, 48–50	59.38–59.39	1.851	445	25.41	1.30	579	147	51.95	32.61	7.76	1.80	5.87
7H-5, 92–94	59.82–59.83	1.952	442	24.95	1.66	734	183	58.28	33.73	5.37	1.36	1.26
7H-5, 140–142	60.30–60.31	1.998	5712	27.52	1.49	8511	2342	45.62	42.07	8.21	3.05	1.04
7H-6, 9–11	60.49–60.50	2.001	5712	18.26	1.49	8533	1558	58.40	32.06	5.98	2.46	1.10
7H-6, 48–50	60.88–60.89	2.008	5712	8.34	1.49	8531	712	69.03	26.26	3.39	0.66	0.66
7H-6, 92–94	61.32–61.33	2.016	5712	7.55	1.49	8530	644	62.65	23.12	6.98	4.27	2.98
7H-6, 140–142	61.80–61.81	2.024	5712	8.07	1.49	8528	688	65.68	26.87	4.68	1.52	1.25
7H-7, 10–12	62.00–62.01	2.028	5712	7.28	1.49	8528	621	76.28	16.80	3.38	1.66	1.88
7H-7, 45–47	62.35–62.36	2.034	5712	11.45	1.49	8527	976	69.35	21.72	4.80	2.15	1.97
7H-CC, 9–11	62.47–62.48	2.036	5712	14.74	1.49	8526	1257	64.29	15.69	3.56	0.93	15.53
8H-1, 10–12	62.50–62.51	2.037	5712	7.37	1.49	8526	628	74.31	19.15	3.46	1.40	1.69
8H-1, 90–92	63.30–63.31	2.051	5712	5.25	1.49	8523	447	65.94	22.71	4.74	1.54	5.07
8H-1, 140–142	63.80–63.81	2.059	5712	10.88	1.49	8522	927	46.41	38.55	10.97	2.07	1.99
8H-2, 10–12	64.00–64.01	2.063	5712	39.17	1.49	8521	3338	44.95	26.37	9.32	5.74	13.62
8H-2, 48–50	64.38–64.39	2.069	5712	17.46	1.33	7597	1326	42.65	43.26	10.75	2.30	1.03
8H-2, 90–92	64.80–64.81	2.077	5712	22.32	1.33	7597	1695	44.76	21.14	8.80	6.32	18.98
8H-3, 9–11	65.49–65.50	2.089	5712	10.23	1.33	7597	777	68.06	22.30	4.87	1.52	3.25
8H-3, 90–92	66.30–66.31	2.103	5712	9.27	1.35</							

Table 1 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y. ⁻¹)	>63 µm (wt%)	DBD (gcm ⁻³)	Bulk AR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	>1000 µm (wt%)
8H-7, 9–11	71.49–71.50	2.194	5712	21.19	1.81	10339	2191	58.50	23.69	9.72	4.89	3.19
8H-7, 47–49	71.87–71.88	2.201	5712	15.73	1.81	10339	1626	48.01	28.23	11.56	7.38	4.82
9H-1, 9–11	71.99–72.00	2.203	5712	9.28	1.36	7768	721	64.69	18.81	7.28	4.00	5.22
8H-CC, 9–11	72.17–72.18	2.206	5712	13.39	1.34	7654	1025	47.14	20.40	10.79	8.28	13.40
9H-1, 48–50	72.38–72.39	2.210	5712	37.82	1.34	7654	2895	56.65	15.53	11.89	7.53	8.40
9H-1, 90–92	72.80–72.81	2.217	5712	10.12	1.49	8488	859	31.04	13.34	5.75	3.63	46.24
9H-1, 140–142	73.30–73.31	2.226	5712	9.78	1.49	8486	830	78.58	17.10	3.18	1.07	0.08
9H-2, 9–11	73.49–73.50	2.229	5712	6.40	1.49	8486	544	76.27	17.92	3.47	0.74	1.61
9H-2, 49–51	73.89–73.90	2.236	5712	10.80	1.49	8484	916					
9H-2, 89–91	74.29–74.30	2.243	5712	13.81	1.49	8483	1172	58.96	16.39	5.58	2.69	16.38
9H-2, 140–142	74.80–74.81	2.252	5712	10.49	1.48	8481	890	33.74	36.77	23.18	3.69	2.62
9H-3, 10–12	75.00–75.01	2.255	5712	7.00	1.35	7711	540	74.05	12.87	5.28	3.88	3.94
9H-3, 48–50	75.38–75.39	2.262	5712	3.29	1.35	7711	254	42.66	35.02	16.53	4.75	1.04
9H-3, 89–91	75.79–75.80	2.269	5712	4.58	1.35	7711	353	68.30	24.78	5.89	1.02	0.00
9H-4, 9–11	76.38–76.39	2.280	5712	8.00	1.26	7197	576	60.47	20.28	6.82	4.32	8.11
9H-4, 48–50	76.77–76.78	2.286	5712	3.04	1.26	7197	219	52.05	25.99	11.43	3.43	7.10
9H-4, 90–92	77.19–77.20	2.294	5712	17.52	1.48	8471	1484	37.77	21.93	11.46	7.17	21.68
9H-5, 9–11	77.88–77.89	2.306	5712	6.66	1.48	8468	564	72.52	19.36	4.69	1.63	1.80
9H-5, 46–48	78.25–78.26	2.312	5712	15.29	1.44	8225	1258	54.48	30.53	8.34	4.24	2.41
9H-5, 90–92	78.69–78.70	2.320	5712	9.62	1.44	8225	791	75.31	18.03	5.08	1.04	0.54
9H-6, 9–11	79.38–79.39	2.332	5712	8.36	1.71	9768	816	73.65	15.90	3.93	3.50	3.02
9H-6, 42–44	79.71–79.72	2.338	5712	12.01	1.71	9768	1173	51.84	17.79	8.71	4.48	17.19
9H-CC, 9–11	79.83–79.84	2.340	5712	12.30	1.71	9768	1202	76.18	17.26	2.84	0.71	3.01
10H-1, 9–11	81.49–81.50	2.369	5712	6.92	1.48	8453	585	66.77	19.29	7.46	1.97	4.50
10H-1, 49–51	81.89–81.90	2.376	5712	30.58	1.48	8451	2584	47.17	48.17	3.26	0.79	0.61
10H-1, 90–92	82.30–82.31	2.383	5712	8.36	1.48	8450	707	45.05	19.10	13.78	9.26	12.81
10H-1, 140–142	82.80–82.81	2.392	5712	22.43	1.70	9710	2178	47.88	37.84	11.48	1.39	1.40
10H-2, 9–11	82.99–83.00	2.395	5712	9.80	1.31	7483	734	40.21	18.50	18.20	11.97	11.12
10H-2, 49–51	83.39–83.40	2.402	5712	19.92	1.31	7483	1491	51.76	22.27	9.23	5.25	11.49
10H-2, 90–92	83.80–83.81	2.409	5712	9.97	1.31	7483	746	68.29	21.69	5.75	1.07	3.21
10H-2, 140–142	84.30–84.31	2.418	5712	8.21	1.42	8111	666	29.21	14.77	51.53	2.52	1.98
10H-3, 9–11	84.49–84.50	2.422	5712	8.11	1.42	8111	658	69.25	19.72	6.68	2.38	1.97
10H-3, 49–51	84.89–84.90	2.429	5712	12.30	1.42	8111	998	55.23	23.24	7.37	3.38	10.77
10H-3, 90–92	85.30–85.31	2.436	5712	10.40	1.53	8739	909	27.61	13.15	10.50	8.98	39.77
10H-3, 140–142	85.80–85.81	2.444	5712	12.63	1.53	8739	1104	37.52	30.17	22.97	2.66	6.69
10H-4, 9–11	85.99–86.00	2.448	5712	21.23	1.69	9653	2049	43.91	21.68	11.18	5.77	17.46
10H-4, 90–92	86.80–86.81	2.462	5712	28.01	1.71	9768	2736	49.85	38.46	9.32	1.08	1.29
10H-5, 9–11	87.49–87.50	2.474	5712	25.86	1.45	8282	2142	64.64	23.46	6.61	3.18	2.10
10H-5, 49–51	87.89–87.90	2.481	5712	7.29	1.45	8282	604	66.42	27.31	4.54	0.79	0.94
10H-5, 90–92	88.30–88.31	2.488	5712	7.66	1.59	9082	695	67.14	19.97	4.70	1.23	6.96
10H-6, 9–11	88.99–89.00	2.500	5712	18.09	1.59	9082	1643	70.37	18.99	8.05	0.97	1.62
10H-6, 88–90	89.78–89.79	2.514	5712	13.52	1.61	9196	1243	74.00	17.39	6.01	0.86	1.75
10H-CC, 9–11	90.16–90.17	2.521	5712	16.33	1.49	8511	1390	71.05	18.12	7.73	1.06	2.04
11X-2, 90–92	93.30–93.31	2.576	5712	12.01	1.52	8682	1043	61.43	22.58	6.84	2.85	6.31
11X-2, 140–142	93.80–93.81	2.585	5712	26.99	1.52	8682	2343	37.69	43.96	15.03	1.73	1.58
11X-3, 7–9	93.97–93.98	2.588	5712	18.85	1.52	8682	1637	43.60	31.35	16.05	6.94	2.07
11X-3, 48–50	94.38–94.39	2.595	5712	10.77	1.58	9025	972	64.13	24.35	6.49	2.85	2.18
11X-3, 91–93	94.81–94.82	2.602	5712	10.78	1.58	9025	973	62.66	18.44	6.92	5.66	6.31
11X-CC, 9–11	95.14–95.15	2.608	5712	8.04	1.47	8386	674	61.03	21.49	9.88	3.63	3.97
12X-1, 9–11	100.69–100.70	2.750	3899	7.30	1.31	5108	373	63.62	19.03	4.77	8.88	3.70
12X-1, 49–51	101.09–101.10	2.761	3899	7.27	1.29	5030	366	42.42	27.95	9.97	15.63	4.03
12X-1, 90–92	101.50–101.51	2.771	3899	4.48	1.29	5030	225	69.42	23.19	6.33	1.00	0.06
12X-1, 140–142	102.00–102.01	2.784	3899	11.37	1.24	4835	550	49.80	21.26	7.63	2.75	18.56
12X-2, 9–11	102.19–102.20	2.789	3899	5.92	1.24	4835	286	72.51	21.08	2.60	0.64	3.18
12X-2, 90–92	103.00–103.01	2.810	3899	14.25	1.30	5069	722	63.67	22.50	10.03	3.48	0.32
12X-2, 140–142	103.50–103.51	2.822	3899	5.78	1.30	5069	293	49.96	28.57	14.85	6.35	0.27
12X-3, 9–11	103.69–103.70	2.827	3899	14.55	1.30	5069	737	33.30	17.17	10.46	6.84	32.23
12X-3, 90–92	104.50–104.51	2.848	3899	7.24	1.29	5030	364	79.20	19.19	1.34	0.26	0.00
12X-4, 9–11	105.19–105.20	2.866	3899	15.22	1.30	5069	772	63.12	25.10	7.02	2.98	1.78
12X-CC, 8–10	106.04–106.05	2.888	3899	11.49	1.30	5069	583	73.77	20.71	3.74	0.71	1.08
13X-1, 9–11	110.49–110.50	3.002	3899	6.77	1.70	6628	449	74.99	15.59	2.59	2.05	4.78
13X-1, 49–51	110.89–110.90	3.012	3899	5.44	1.70	6628	361	56.34	33.57	6.60	1.83	1.65
13X-1, 90–92	111.30–111.31	3.022	3899	10.37	1.42	5537	574	73.07	17.73	3.56	0.97	4.68
13X-2, 9–10	111.99–112.00	3.040	3899	6.43	1.42	5537	356	65.34	17.35	5.22	2.44	9.64
13X-2, 90–92	112.80–112.81	3.061	3899	9.95	1.33	5186	516	80.40	13.20	2.70	0.93	2.77
13X-2, 141–143	113.31–113.32	3.135	685	3.12	1.40	959	30	59.71	31.18	6.63	2.22	0.25
13X-3, 9–11	113.49–113.50	3.162	685	2.66	1.40	959	26	69.05	20.11	3.73	1.76	5.35
13X-3, 49–51	113.89–113.90	3.188	3723	24.68	1.40	5212	1286	78.49	19.65	1.07	0.26	0.54
13X-3, 90–92	114.30–114.31	3.199	3723	10.50	1.46	5436	571	76.26	17.04	4.03	1.41	1.26
13X-3, 141–143	114.81–114.82	3.213	3723	3.12	1.46	5436	170	49.63	30.53	13.26	4.71	1.88
13X-4, 9–11	114.99–115.00	3.217	3723	4.22	1.46	5436	229	66.89	16.05	7.84	3.60	5.63
13X-4, 49–51	115.39–115.40	3.228	3723	3.58	1.32	4914	176	45.94	27.10	18.18	7.41	1.37
13X-4, 91–93	115.81–115.82	3.239	3723	6.53	1.32	4914	321	75.99	20.86	2.28	0.50	0.37
13X-4, 136–138	116.26–116.27	3.252	3723	24.59	1.61	5994	1474	33.09	15.86	3.23	1.55	46.27
13X-5, 9–11	116.49–116.50	3.258	3723	10.09	1.61	5994	605	82.45	14.79	1.75	0.39	0.62
13X-5, 91–93	117.31–117.32	3.333	962	4.83	1.43	1376	66	71.91	15.60	5.31	2.84	4.34
13X-5, 140–142	117.80–117.81	3.384	962	2.98	1.43	1376	41	63.10	18.24	2.03	3.33	13.

Table 1 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y. ⁻¹)	>63 µm (wt%)	DBD (gem ⁻³)	Bulk AR (g cm ⁻² m.y. ⁻¹)	>63 µm AR (g cm ⁻² m.y. ⁻¹)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	>1000 µm (wt%)
14X-2, 90–92	122.40–122.41	3.676	1719	12.33	1.39	2389	295	84.67	12.77	1.59	0.93	0.04
14X-3, 9–11	123.09–123.10	3.716	1719	17.77	1.34	2303	409	71.71	7.80	2.26	4.25	13.98
14X-3, 35–37	123.35–123.36	3.731	1719	0.95	1.34	2303	22	67.24	22.49	9.72	0.55	0.00
14X-3, 89–91	123.89–123.90	3.762	1719	3.05	1.34	2303	70	49.50	21.60	11.11	4.90	12.89
14X-4, 9–11	124.59–124.60	3.803	1719	1.39	1.31	2252	31	96.82	3.18	0.00	0.00	0.00
14X-4, 34–36	124.84–124.85	3.818	1719	0.75	1.28	2200	17					
14X-4, 88–91	125.38–125.40	3.850	1719	3.66	1.35	2321	85	47.22	8.06	3.05	5.66	36.01
14X-4, 140–142	125.90–125.91	3.879	1719	4.81	1.35	2321	112	27.94	25.01	29.19	17.85	0.00
14X-5, 9–11	126.09–126.10	3.890	1719	2.94	1.61	2768	81	70.91	17.50	0.70	8.99	1.90
14X-CC, 9–11	126.64–126.65	3.922	1719	4.16	1.61	2768	115	61.60	12.73	5.28	18.58	1.81
14X-CC, 30–32	126.85–126.86	3.934	1719	25.83	1.61	2768	715					
15X-1, 9–11	129.79–129.80	4.105	1719	1.76	1.61	2768	49	62.35	20.61	15.75	1.28	0.00
15X-1, 36–38	130.06–130.07	4.119	2502	5.42	1.34	3353	182	47.79	16.09	11.70	9.87	14.55
15X-1, 90–93	130.60–130.62	4.141	2502	5.00	1.34	3353	168	78.96	17.24	3.11	0.68	0.00
15X-1, 140–143	131.10–131.12	4.160	2502	13.48	1.41	3528	476	84.01	13.39	2.19	0.41	0.00
15X-2, 9–11	131.29–131.30	4.168	2502	2.54	1.41	3532	90	73.74	18.89	6.88	0.49	0.00
15X-2, 36–38	131.56–131.57	4.179	2502	12.51	1.41	3531	442	75.39	17.07	6.08	1.46	0.00
15X-2, 90–93	132.10–132.12	4.201	2502	0.34	1.41	3528	12	46.88	8.93	34.82	9.38	0.00
15X-2, 140–143	132.60–132.61	4.220	2502	1.96	1.41	3526	69	40.39	22.49	21.50	13.59	2.02
15X-3, 9–11	132.79–132.80	4.228	2502	1.80	1.41	3525	64	27.74	18.24	7.90	5.43	40.69
15X-3, 39–41	133.09–133.10	4.240	2502	59.29	1.79	4479	2655	86.00	12.69	1.05	0.26	0.00
15X-3, 90–93	133.60–133.62	4.261	2502	1.36	1.37	3428	47	50.74	27.31	20.20	1.75	0.00
15X-CC, 9–11	133.79–133.80	4.268	2502	8.04	1.34	3353	270	83.07	11.38	4.75	0.81	0.00
15X-CC, 36–38	134.06–134.07	4.278	2502	4.78	1.37	3428	164	40.49	22.99	14.16	12.80	9.56
16X-1, 9–11	139.29–139.30	4.488	2502	5.00	1.38	3453	173	77.07	10.61	3.98	4.05	4.29
16X-2, 9–11	140.79–140.80	4.547	2502	1.85	1.39	3485	65	62.25	18.61	13.08	6.06	0.00
16X-2, 35–38	141.05–141.06	4.558	2502	14.96	1.44	3603	539					
16X-2, 91–94	141.61–141.63	4.581	2502	1.44	1.44	3603	52	73.32	9.66	1.53	9.95	5.54
16X-3, 9–11	142.29–142.30	4.607	2502	0.83	1.26	3153	26	63.55	2.42	1.87	8.15	24.01
16X-3, 35–38	142.55–142.57	4.618	2502	0.49	1.26	3153	15					
16X-3, 91–94	143.11–143.13	4.641	2502	0.17	1.26	3153	6	59.57	23.40	17.02	0.00	0.00
16X-4, 9–11	143.79–143.80	4.667	2502	3.87	1.26	3153	122	2.83	2.10	2.99	4.57	87.50
16X-4, 35–38	144.05–144.07	4.678	2502	1.01	1.44	3603	36					
16X-4, 91–94	144.61–144.63	4.701	2502	1.62	1.44	3603	58	44.35	7.12	1.97	6.38	40.17
16X-4, 91–94	144.61–144.63	4.701	2502	12.41	1.44	3603	447	90.26	8.64	1.10	0.00	0.00
16X-CC, 9–11	145.29–145.30	4.727	2502	0.78	1.44	3603	28	25.23	8.68	10.42	23.50	32.18
16X-CC, 35–38	145.55–145.57	4.738	2502	0.53	1.44	3603	19					
17X-1, 9–12	148.79–148.81	4.868	2502	2.92	1.44	3603	105	73.81	16.20	8.27	1.72	0.00
17X-1, 90–93	149.60–149.62	4.900	2502	17.76	1.28	3203	569	88.45	8.55	2.25	0.75	0.00
17X-1, 140–142	150.10–150.11	4.920	2502	1.99	1.31	3278	65					
17X-2, 9–12	150.29–150.31	4.928	2502	3.32	1.31	3278	109	31.19	11.41	9.36	41.64	6.40
17X-2, 90–93	151.10–151.12	4.960	2502	2.27	1.31	3278	74	70.39	13.67	11.46	4.48	0.00
17X-2, 140–142	151.60–151.61	4.980	2502	3.97	1.31	3278	130					
17X-3, 9–12	151.79–151.81	4.988	2502	22.14	1.31	3278	726	94.58	4.80	0.45	0.17	0.00
17X-3, 90–93	152.60–152.62	5.020	2502	1.66	1.31	3278	54	50.22	17.25	6.26	16.71	9.56
17X-4, 9–12	153.29–153.31	5.047	2502	2.44	1.34	3353	82	92.16	5.90	1.41	0.53	0.00
17X-4, 90–93	154.10–154.12	5.080	2502	9.49	1.34	3353	318	78.37	6.44	6.00	7.49	1.70
17X-5, 9–12	154.79–154.81	5.107	2502	3.83	1.30	3253	124	66.87	17.15	7.96	2.07	5.95
17X-5, 90–93	155.60–155.62	5.140	2502	2.22	1.30	3253	72	46.28	15.00	5.32	26.22	7.17
17X-5, 140–142	156.10–156.11	5.159	2502	1.83	1.41	3528	65					
17X-6, 9–12	156.29–156.31	5.167	2502	2.10	1.41	3528	74	40.71	11.59	4.40	14.39	28.91
17X-6, 90–93	157.10–157.12	5.200	2502	5.69	1.39	3478	198	77.35	12.02	3.91	3.78	2.94
17X-7, 9–12	157.79–157.81	5.227	2502	2.78	1.39	3478	97	70.19	19.57	7.79	2.34	0.10
17X-CC, 9–12	158.27–158.29	5.247	2502	0.21	1.25	3128	7	50.61	21.34	14.63	13.41	0.00
18X-1, 9–12	158.29–158.31	5.247	2502	0.15	1.25	3128	5	77.36	10.69	6.29	5.66	0.00
18X-1, 90–93	159.10–159.12	5.280	2502	0.03	1.25	3128	1	100.00	0.00	0.00	0.00	0.00
18X-1, 139–142	159.10–159.12	5.280	2502	0.03	1.25	3128	1	100.00	0.00	0.00	0.00	0.00
18X-2, 9–12	159.79–159.81	5.299	2502	4.46	1.25	3128	139					
18X-2, 9–12	159.79–159.81	5.307	2502	0.78	1.25	3128	25	21.81	2.53	0.92	15.73	59.01
18X-2, 36–38	160.60–160.61	5.339	2502	0.62	1.31	3278	20					
18X-2, 90–93	160.60–160.62	5.340	2502	0.74	1.31	3278	24	18.90	6.03	3.62	31.50	39.95
18X-2, 139–142	161.09–161.11	5.359	2502	1.68	1.47	3678	62					
18X-3, 9–12	161.29–161.31	5.367	2502	3.80	1.47	3678	140	18.20	6.68	6.11	16.43	52.58
18X-3, 36–38	161.56–161.57	5.378	2502	4.42	1.47	3678	163					
18X-3, 90–93	162.10–162.12	5.400	2502	2.68	1.47	3678	98	73.74	22.53	3.15	0.58	0.00
18X-3, 139–142	162.59–162.61	5.419	2502	0.92	1.47	3678	34					
18X-4, 9–12	162.79–162.81	5.427	2502	2.61	1.47	3678	96	32.57	3.15	5.33	31.14	27.81
18X-4, 90–93	163.60–163.62	5.460	2502	1.87	1.45	3628	68	84.74	7.85	6.75	0.65	0.00
18X-5, 9–12	164.29–164.31	5.487	2502	1.55	1.52	3803	59	37.57	4.09	6.50	13.25	38.59
18X-5, 90–93	165.10–165.12	5.520	2502	1.69	1.52	3803	64	35.45	1.76	8.63	20.38	33.79
18X-5, 139–142	165.59–165.61	5.539	2502	1.00	1.52	3803	38					
18X-6, 9–12	165.79–165.81	5.547	2502	2.94	1.52	3803	112	46.11	2.39	4.33	21.61	25.55
18X-6, 36–38	166.06–166.07	5.557	2502	22.73	1.38	3453	785					
18X-6, 90–93	166.60–166.62	5.579	2502	3.40	1.39	3473	118	82.98	2.89	7.43	3.08	3.62
18X-7, 9–12	167.29–167.31	5.607	2502	0.21	1.28	3203	7	73.73	8.47	15.25	2.54	0.00
19X-1, 12–14	167.92–167.93	5.632	2502	3.29	1.28	3203	105	65.20	2.14	1.92	16.78	13.96
19X-1, 90–93	168.70–168.72	5.663	2502	0.49	1.33	3328	16	90.55	4.98	1.49	2.99	0.00
19X-2, 12–15	169.42–169.44	5.692	2502	0.98	1.03	2585	25	58.17	3.94	6.33	10.18	21.38
19X-2, 35–38	169.65–169.67	5.701	2502	1.57	1.33	3328	52					
19X-2, 90–93	170.20–170.22	5.723	2502	2.23	1.44	36						

Table 1 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y. ⁻¹)	>63 µm (wt%)	DBD (g cm ⁻³)	Bulk AR (g cm ⁻² m.y. ⁻¹)	>63 µm AR (g cm ⁻² m.y. ⁻¹)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	>1000 µm (wt%)
19X-5, 139–142	175.19–175.21	5.923	2502	3.63	1.47	3678	133	53.56	3.40	15.81	22.16	5.07
19X-CC, 12–15	175.42–175.44	5.932	2502	1.72	1.47	3678	63	71.68	4.39	7.71	16.22	0.00
20X-1, 8–11	177.48–177.50	6.014	2502	1.26	1.44	3603	45	96.68	2.59	0.43	0.30	0.00
20X-1, 89–92	178.29–178.31	6.047	2502	16.18	1.44	3603	583	96.68	2.59	0.43	0.30	0.00
20X-1, 140–143	178.80–178.91	6.070	2502	2.25	1.44	3603	81					
20X-2, 8–11	178.98–179.00	6.074	2502	7.88	1.44	3597	284	92.78	4.81	2.18	0.23	0.00
20X-2, 35–38	179.25–179.27	6.085	2502	2.68	1.47	3678	99					
20X-2, 89–92	179.79–179.81	6.107	2502	1.53	1.47	3678	56	74.23	2.01	3.09	20.67	0.00
20X-3, 8–11	180.48–180.50	6.134	2502	22.30	1.47	3678	820	57.30	6.92	8.35	11.71	15.72
20X-3, 89–92	181.29–181.31	6.167	2502	1.81	1.46	3643	66	80.46	3.33	5.52	10.69	0.00
20X-4, 8–11	181.98–182.00	6.194	2502	2.03	1.46	3659	74	57.63	3.86	14.52	14.43	9.56
20X-4, 35–38	182.25–182.27	6.205	2502	24.73	1.38	3453	854					
20X-4, 89–92	182.79–182.81	6.227	2502	1.28	1.38	3453	44	42.95	4.89	28.38	23.78	0.00
20X-4, 140–143	183.30–183.32	6.247	2502	67.94	1.53	3828	2601					
20X-5, 8–11	183.48–183.50	6.254	2502	34.01	1.53	3828	1302	94.70	4.08	0.95	0.27	0.00
20X-5, 35–38	183.75–183.77	6.265	2502	0.31	1.53	3828	12					
20X-5, 89–92	184.29–184.31	6.286	2502	40.92	1.43	3578	1464	90.53	7.53	1.57	0.38	0.00
20X-6, 8–11	184.98–185.00	6.314	2502	5.73	1.43	3578	205	76.58	4.58	2.77	1.99	14.09
20X-6, 35–38	185.25–185.27			4.17	1.18	0	0					
20X-6, 89–92	185.79–185.81			0.78	1.18	0	0	74.43	15.27	8.59	1.72	0.00
20X-7, 8–11	186.48–186.50			2.27	1.18	0	0	35.45	5.30	8.24	28.21	22.79
20X-CC, 8–11	186.72–186.74			0.69	1.18	0	0	90.26	5.53	0.00	4.21	0.00
21X-1, 9–10	187.19–187.20			2.27	1.18	0	0	74.88	5.19	13.29	6.64	0.00
21X-1, 90–91	188.00–188.01			1.76	1.04	0	0	68.93	5.35	15.46	10.26	0.00
21X-2, 10–11	188.70–188.71			3.40	1.04	0	0	79.06	5.34	13.30	2.30	0.00
21X-2, 90–91	189.50–189.51			4.06	0.87	0	0	68.56	13.20	10.00	8.25	0.00
21X-3, 10–11	190.20–190.21			3.84	0.87	0	0	76.38	6.99	13.56	3.07	0.00
21X-3, 90–91	191.00–191.01			4.39	0.98	0	0	80.02	2.13	9.67	5.90	2.27
21X-4, 10–11	191.70–191.71			3.35	0.98	0	0	63.25	5.37	17.48	13.90	0.00
21X-4, 90–91	192.50–192.51			1.89	1.03	0	0	63.75	2.78	11.71	21.77	0.00
21X-5, 10–11	193.20–193.21			4.96	1.03	0	0	0.00	4.14	40.50	55.36	0.00
21X-5, 91–92	194.01–194.02			5.19	0.96	0	0	53.95	3.03	11.71	31.31	0.00
21X-6, 10–11	194.70–194.71			5.93	0.96	0	0	64.03	5.24	16.63	7.07	7.03
21X-6, 90–91	195.50–195.51			5.04	0.96	0	0	57.93	1.90	21.00	15.27	3.90
21X-7, 9–10	196.19–196.20			1.51	0.96	0	0	61.33	0.51	11.12	12.05	15.00
21X-CC, 9–10	196.65–196.66			11.07	0.96	0	0	4.53	0.85	2.27	2.69	89.66
22X-1, 9–11	196.79–196.80			0.34	0.96	0	0	94.12	0.00	5.88	0.00	0.00
22X-1, 88–90	197.58–197.59			1.12	1.13	0	0	44.93	1.17	3.90	5.36	44.64
22X-2, 9–11	198.29–198.30			6.57	1.13	0	0	10.08	0.18	3.18	3.53	83.03
22X-2, 90–92	199.10–199.11			3.76	1.04	0	0	91.27	1.61	5.94	1.18	0.00
22X-3, 9–11	199.79–199.80			4.52	1.04	0	0	82.10	9.51	6.39	2.00	0.00
22X-3, 90–92	200.60–200.61			5.53	1.04	0	0	92.28	0.99	4.24	2.50	0.00
22X-4, 9–11	201.29–201.30			4.85	1.18	0	0	89.29	0.00	2.32	2.85	5.54
22X-4, 90–92	202.10–202.11			1.28	1.19	0	0	67.23	5.74	13.85	13.18	0.00
22X-5, 9–11	202.79–202.80			1.35	1.19	0	0	70.64	0.00	5.00	11.31	13.06
22X-5, 90–92	203.60–203.61			2.15	1.32	0	0	47.94	1.95	22.77	1.20	26.14
22X-6, 9–11	204.29–204.30			1.16	1.32	0	0	87.08	5.06	6.18	1.69	0.00
22X-CC, 9–11	204.57–204.58			2.46	1.32	0	0	34.72	0.68	3.63	13.46	47.50
23X-1, 12–13	206.42–206.43			3.06	1.32	0	0	32.01	6.66	3.61	16.78	40.93
23X-2, 9–10	207.89–207.90			1.74	1.31	0	0	87.27	3.08	4.62	1.82	3.22
23X-3, 9–10	209.39–209.40			4.43	1.10	0	0	90.12	1.88	3.83	4.17	0.00
23X-4, 9–10	210.89–210.90			5.87	0.94	0	0	85.19	7.17	6.78	0.87	0.00
23X-5, 9–10	212.39–212.40			5.30	1.00	0	0	41.24	24.62	6.40	0.00	27.74
23X-6, 9–10	213.89–213.90			4.50	0.74	0	0	67.11	5.54	13.80	12.07	1.49
24X-1, 9–10	216.09–216.10			1.51	1.32	0	0	53.16	5.08	15.25	26.50	0.00
24X-2, 9–10	217.59–217.60			0.86	1.31	0	0	46.14	7.72	10.81	10.23	25.10
24X-3, 9–10	219.09–219.10			0.94	1.01	0	0	48.77	10.41	11.78	4.66	24.38
24X-4, 9–10	220.59–220.60			4.18	1.01	0	0	79.42	4.90	12.40	3.27	0.00
24X-5, 9–10	222.09–222.10			6.27	1.02	0	0	52.43	3.46	12.43	23.90	7.79
24X-6, 9–10	223.59–223.60			1.91	1.14	0	0	77.09	0.70	12.85	9.36	0.00
24X-7, 9–10	225.09–225.10			4.75	0.94	0	0	67.41	1.02	16.73	14.84	0.00
24X-CC, 9–10	225.50–225.51			5.12	0.94	0	0	90.82	1.12	6.28	1.78	0.00
25X-1, 16–18	225.76–225.77			5.22	0.94	0	0	64.12	1.80	13.41	20.67	0.00
25X-2, 8–10	227.18–227.19			4.86	1.11	0	0	72.59	1.88	13.64	11.88	0.00
25X-3, 6–7	228.66–228.67			3.24	1.22	0	0	75.39	0.53	4.93	11.34	7.82
25X-4, 12–14	230.22–230.23			4.61	1.01	0	0	79.91	0.57	9.15	10.08	0.29
25X-5, 8–10	231.68–231.69			4.93	1.02	0	0	86.19	1.37	7.73	4.72	0.00
25X-6, 8–10	233.18–233.19			4.66	1.04	0	0	68.52	4.87	9.22	17.39	0.00
25X-CC, 9–11	233.46–233.47			5.03	1.04	0	0	68.51	3.68	11.96	12.99	2.85
26X-1, 17–18	235.37–235.38			2.33	1.13	0	0	66.37	0.31	20.02	11.61	1.69
26X-2, 9–11	236.79–236.80			1.69	1.15	0	0	65.04	1.18	9.47	15.67	8.65
26X-3, 10–12	238.30–238.31			5.23	1.01	0	0	71.73	3.07	4.21	5.42	15.57
26X-4, 10–12	239.80–239.81			0.98	1.01	0	0	86.89	1.24	5.76	6.10	0.00
26X-5, 9–11	241.29–241.30			1.82	1.12	0	0	29.86	0.95	11.48	35.93	21.78
26X-6, 9–11	242.79–242.80			0.78	1.38	0	0	60.56	1.28	14.73	14.39	9.05
26X-CC, 9–11	244.23–244.24			0.57	1.38	0	0	65.19	1.67	18.89	14.26	0.00
27X-1, 10–12	245.00–245.01			0.50	1.39	0	0	56.93	1.24	13.86	7.18	20.79
27X-2, 10–12	246.50–246.51			7.50	1.19	0	0	83.06	1.21	6.88	7.81	1.04
27X-3, 10–12	248.00–248.01			2.99	1.24	0	0	74.02	0.72	16.32	8.95	0.00
27X-4, 10–12	249.50–249.51			5.00	1.21	0	0	85.76	1.37	8.29	4.59	0.00
27X-5, 10–12	251.00–251.01			7.63	1.21	0	0	90.36	1.65	5.91	2.07	0.00
27X-CC, 10–12	252.50–252.51			5.88	1.08	0	0	75.56	1.77	14.79	6.05	1.83
28X-1, 9–12	254.69–254.71			3.17	1.26	0	0	80.36	2.04	5.05	9.94	2.61
28X-2, 10–12	256.20–256.21			1.02	1.35	0	0	70.63	0.00	19.58	9.79	0.00
28X-3, 18–20	257.78–257.79			0.91	1.35	0	0	58.68	4.42	13.25	23.66	0.00
28X-3, 82												

Table 1 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y. ⁻¹)	>63 µm (wt%)	DBD (g cm ⁻³)	Bulk AR (g cm ⁻² m.y. ⁻¹)	>63 µm AR (g cm ⁻² m.y. ⁻¹)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	>1000 µm (wt%)
28X-CC, 8–10	263.32–263.33			4.47	1.13	0	0	60.70	2.33	11.80	12.62	12.55
28X-CC, 9–11	263.33–263.34			5.66	1.13	0	0	65.49	4.21	9.34	9.96	11.01
29X-1, 9–11	264.29–264.30			4.60	1.32	0	0	85.87	3.05	9.40	1.67	0.00
29X-2, 9–11	265.79–265.80			3.15	1.31	0	0	42.06	2.29	9.93	4.58	41.14
29X-3, 9–11	267.29–267.30			3.09	1.43	0	0	27.87	1.99	14.16	11.82	44.16
29X-4, 9–11	268.79–268.80			2.16	1.21	0	0	24.72	1.22	9.26	8.88	55.92
29X-5, 9–11	270.29–270.30			3.62	1.02	0	0	86.37	3.14	8.86	1.63	0.00
29X-6, 9–11	271.79–271.80			4.49	1.02	0	0	86.38	10.07	2.67	0.88	0.00
29X-7, 9–11	273.29–273.30			8.56	1.15	0	0	24.79	13.24	14.54	19.08	28.34
29X-CC, 9–11	273.82–273.83			3.63	1.15	0	0	69.21	14.17	11.02	5.59	0.00
30X-1, 10–12	274.00–274.01			5.37	0.92	0	0	57.53	10.77	20.49	11.21	0.00
30X-2, 10–12	275.50–275.51			7.45	0.92	0	0	25.15	6.16	12.53	23.46	32.71
30X-3, 10–12	277.00–277.01			3.20	0.88	0	0	36.99	7.75	9.18	24.11	21.97
30X-4, 10–12	278.50–278.51			6.13	0.85	0	0	49.05	7.72	10.05	25.74	7.44
30X-5, 10–12	280.00–280.01			7.12	1.26	0	0	53.54	6.57	9.18	15.19	15.51
30X-6, 10–12	281.50–281.51			5.76	1.34	0	0	57.92	12.91	14.24	14.94	0.00
30X-7, 10–12	283.00–283.01			2.50	1.35	0	0	36.35	15.16	23.84	18.99	5.66
30X-CC, 10–12	283.47–283.48			3.31	1.38	0	0	21.40	28.42	35.09	15.09	0.00
31X-1, 7–9	283.57–283.58			3.49	1.38	0	0	51.65	19.22	14.61	8.00	6.52
31X-2, 7–9	285.07–285.08			1.01	1.38	0	0	41.58	28.69	23.91	5.82	0.00
31X-3, 10–12	286.60–286.61			0.97	1.37	0	0	39.01	33.18	20.18	7.62	0.00
31X-4, 7–9	288.07–288.08			1.01	1.42	0	0	43.84	24.41	13.82	3.02	14.90
31X-5, 7–9	289.57–289.58			0.41	1.42	0	0	24.65	26.05	22.79	26.51	0.00
31X-6, 9–11	291.09–291.10			4.28	1.06	0	0	23.12	8.12	8.12	17.79	42.85
31X-7, 10–12	292.60–292.61			2.64	1.00	0	0	54.84	19.10	19.82	4.25	1.99
31X-CC, 9–11	293.07–293.08			3.34	1.03	0	0	73.47	11.70	12.55	2.28	0.00
32X-1, 10–11	293.30–293.31			3.49	1.03	0	0	21.96	19.64	16.07	21.25	21.07
32X-2, 12–13	294.82–294.83			3.20	1.03	0	0	58.90	25.02	11.45	4.62	0.00
32X-3, 9–10	296.29–296.30			4.01	0.97	0	0	35.33	28.26	33.95	2.45	0.00
32X-4, 11–12	297.81–297.82			5.33	0.97	0	0	21.49	9.81	34.54	25.29	8.87
32X-5, 11–12	299.31–299.32			3.34	0.99	0	0	59.29	16.22	15.44	9.05	0.00
32X-6, 10–11	300.80–300.81			3.30	1.00	0	0	22.03	6.44	9.75	22.97	38.81
32X-7, 9–10	302.29–302.30			1.83	0.98	0	0	18.62	17.93	40.00	13.10	10.34
32X-CC, 9–10	302.78–302.79			3.17	0.98	0	0	64.95	13.14	12.69	6.04	3.17
33X-1, 10–12	302.90–302.91			3.98	0.98	0	0	53.51	7.31	6.12	20.52	12.54
33X-2, 9–11	304.39–304.40			2.42	1.39	0	0	78.57	7.89	6.57	6.97	0.00
33X-3, 9–11	305.89–305.90			4.17	1.13	0	0	71.25	6.85	4.41	12.89	4.60
33X-4, 9–11	307.39–307.40			3.12	1.09	0	0	72.61	7.28	10.87	8.03	1.21
33X-5, 10–12	308.90–308.91			3.58	0.86	0	0	43.65	8.47	15.01	27.33	5.54
33X-6, 11–14	310.41–310.43			3.06	0.72	0	0	71.85	6.46	15.65	4.13	1.91
33X-7, 11–13	311.91–311.92			4.85	0.72	0	0	46.57	2.98	2.80	8.61	39.03
33X-CC, 7–8	312.27–312.28			5.69	0.72	0	0	45.33	8.70	4.74	13.98	27.24
34X-1, 9–11	312.59–312.60			1.79	0.72	0	0	49.13	8.96	15.03	22.98	3.90
34X-2, 9–11	314.09–314.10			3.57	1.05	0	0	80.91	5.25	2.73	4.99	6.12
34X-3, 9–11	315.59–315.60			2.41	1.05	0	0	89.97	6.11	2.42	1.50	0.00
34X-4, 9–11	317.09–317.10			3.55	1.22	0	0	58.95	4.24	2.56	29.80	4.46
34X-5, 9–11	318.59–318.60			1.23	1.22	0	0	55.97	14.20	15.02	14.81	0.00
34X-CC, 10–12	320.10–320.11			0.52	1.40	0	0					
35X-1, 30–31	320.50–320.51			6.90	1.40	0	0	51.48	6.32	9.75	23.53	8.92
35X-2, 9–10	321.79–321.80			7.17	1.24	0	0	63.32	6.38	9.87	20.42	0.00
35X-3, 9–10	323.29–323.30			2.07	1.44	0	0	68.09	9.39	7.83	7.95	6.74
35X-4, 9–10	324.79–324.80			6.17	1.22	0	0	80.48	5.21	5.61	4.31	4.38
35X-5, 9–10	326.29–326.30			8.45	1.28	0	0	53.83	4.54	10.09	22.44	9.10
35X-6, 9–10	327.79–327.80			5.55	1.24	0	0	50.90	9.21	7.36	15.07	17.47
36X-1, 9–10	330.19–330.20			7.03	1.44	0	0	50.31	8.81	10.33	23.43	7.11
36X-2, 9–10	331.69–331.70			11.30	1.44	0	0	57.11	16.13	9.10	4.98	12.68
36X-3, 9–10	333.19–333.20			11.13	1.38	0	0	60.81	9.65	7.52	6.65	15.37
36X-4, 9–10	334.69–334.70			1.38	1.38	0	0	70.35	14.42	9.62	5.61	0.00
36X-5, 8–9	336.18–336.19			4.31	1.41	0	0	65.50	10.51	12.19	11.80	0.00
36X-CC, 6–7	336.38–336.39			4.83	1.41	0	0	69.10	11.80	8.78	9.50	0.82
37X-1, 9–10	340.09–340.10			4.19	1.44	0	0	62.04	19.28	4.72	8.40	5.56
37X-2, 9–10	341.59–341.60			7.11	1.44	0	0	76.25	12.07	6.30	5.38	0.00

Notes: Hole 908A position: 78°23.112'N, 1°21.637'E; water depth from sea surface = 1273.52 m; DBD = dry bulk density, LSR = linear sedimentation rate (see text).

Table 2A. Holes 909A and 909C bulk accumulation rate (BAR), coarse-fraction accumulation rate, and coarse fraction weights.

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y.)	DBD (gcm ⁻³)	BAR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	>63 µm (wt%)
151-909A-							
1H-1, 9–11	0.09–0.10	0.002	4692	0.87	4082	607	14.87
1H-1, 48–50	0.48–0.49	0.010	4692	0.87	4082	547	13.41
1H-1, 90–92	0.90–0.91	0.019	4692	0.99	4645	413	8.90
1H-2, 9–11	1.59–1.60	0.034	4692	0.96	4505	300	6.67
1H-2, 90–92	2.40–2.41	0.051	4692	0.97	4552	217	4.77
1H-3, 9–11	3.09–3.10	0.066	4692	1.07	5021	662	13.19
1H-3, 90–92	3.90–3.91	0.083	4692	0.97	4552	123	2.69
1H-4, 9–11	4.59–4.60	0.098	4692	0.82	3848	1158	30.11
1H-4, 90–92	5.40–5.41	0.115	4692	1.21	5678	1860	32.77
1H-5, 9–11	6.09–6.10	0.130	4692	0.95	4458	335	7.51
1H-5, 90–92	6.90–6.91	0.147	4692	0.98	4598	633	13.77
1H-CC, 9–11	7.21–7.22	0.154	4692	0.86	4035	202	5.01
2H-1, 9–11	7.59–7.60	0.162	4692	0.86	4035	262	6.49
2H-1, 90–92	8.40–8.41	0.179	4692	0.86	4035	114	2.82
2H-2, 9–11	9.09–9.10	0.194	4692	1.22	5725	1697	29.65
2H-2, 90–92	9.90–9.91	0.211	4692	1.21	5678	316	5.56
2H-3, 9–11	10.59–10.60	0.226	4692	1.08	5068	1023	20.19
2H-3, 90–92	11.40–11.41	0.243	4692	1.03	4833	166	3.43
2H-3, 140–142	11.90–11.91	0.254	4692	1.03	4833	442	9.14
2H-3, 140–142	11.90–11.91	0.254	4692	1.03	4833	442	9.14
2H-4, 9–11	12.09–12.10	0.258	4692	1.39	6522	2129	32.64
2H-4, 52–54	12.52–12.53	0.267	4692	1.39	6522	552	8.46
2H-4, 52–54	12.52–12.53	0.267	4692	1.39	6522	552	8.46
2H-4, 90–92	12.90–12.91	0.275	4692	1.21	5678	1374	24.20
2H-5, 9–11	13.59–13.60	0.290	4692	1.03	4833	495	10.23
2H-5, 52–54	14.02–14.03	0.299	4692	1.03	4833	527	10.91
2H-5, 90–92	14.40–14.41	0.307	4692	1.31	6147	1373	22.34
2H-6, 9–11	15.09–15.10	0.322	4692	1.56	7320	221	3.02
2H-6, 90–92	15.90–15.91	0.339	4692	1.25	5865	1394	23.76
2H-6, 140–142	16.40–16.41	0.350	4692	1.25	5865	1777	30.30
2H-6, 140–143	16.40–16.42	0.350	4692	1.25	5865	1777	30.30
2H-7, 9–11	16.59–16.60	0.354	4692	1.57	7367	2472	33.56
3H-1, 9–10	17.09–17.10	0.364	4692	1.05	4927	748	15.19
2H-CC, 10–12	17.24–17.25	0.368	4692	1.05	4927	408	8.27
3H-1, 90–92	17.90–17.91	0.382	4692	1.08	5068	346	6.83
3H-1, 140–141	18.40–18.41	0.392	4692	1.08	5068	268	5.28
3H-2, 9–10	18.59–18.60	0.396	4692	1.14	5349	187	3.49
3H-2, 90–92	19.40–19.41	0.414	4692	1.20	5631	331	5.88
3H-3, 9–10	20.09–20.10	0.428	4692	1.29	6053	416	6.87
3H-3, 90–92	20.90–20.91	0.446	4692	1.05	4927	574	11.65
3H-4, 9–10	21.59–21.60	0.460	4692	0.97	4552	694	15.25
3H-4, 90–92	22.40–22.41	0.478	4692	1.01	4739	4	0.09
3H-4, 140–141	22.90–22.91	0.488	4692	1.01	4739	171	3.61
3H-5, 9–10	23.09–23.10	0.492	4692	1.30	6100	415	6.80
3H-5, 90–92	23.90–23.91	0.510	4692	1.64	7695	512	6.65
3H-6, 9–10	24.59–24.60	0.524	4692	1.17	5490	1550	28.24
3H-6, 90–92	25.40–25.41	0.542	4692	1.30	6100	281	4.60
3H-7, 9–10	26.09–26.10	0.556	4692	1.28	6006	955	15.91
4H-1, 9–11	26.59–26.60	0.567	4692	1.31	6147	867	14.11
3H-CC, 9–10	26.61–26.62	0.567	4692	1.30	6100	1569	25.72
4H-1, 51–53	27.01–27.02	0.576	4692	1.30	6100	1942	31.84
4H-1, 90–92	27.40–27.41	0.584	4692	1.59	7461	658	8.82
4H-1, 142–144	27.92–27.93	0.595	4692	1.59	7461	1892	25.36
4H-1, 142–145	27.92–27.94	0.595	4692	1.59	7461	1892	25.36
4H-2, 9–11	28.09–28.10	0.599	4692	1.22	5725	1205	21.04
4H-2, 90–92	28.90–28.91	0.616	4692	1.44	6757	1249	18.48
4H-3, 9–11	29.59–29.60	0.631	4692	1.61	7555	1000	13.24
4H-3, 90–92	30.40–30.41	0.648	4692	1.26	5912	610	10.31
4H-3, 140–142	30.90–30.91	0.659	4692	1.26	5912	194	3.29
4H-3, 140–143	30.90–30.92	0.659	4692	1.26	5912	194	3.29
4H-4, 9–11	31.09–31.10	0.663	4692	1.26	5912	271	4.58
4H-4, 51–53	31.51–31.52	0.672	4692	1.26	5912	219	3.71
4H-4, 51–53	31.51–31.52	0.672	4692	1.26	5912	219	3.71
4H-4, 90–92	31.90–31.91	0.680	4692	1.26	5912	1161	19.64
4H-5, 9–11	32.59–32.60	0.695	4692	1.26	5912	437	7.40
4H-5, 90–92	33.40–33.41	0.712	4692	1.31	6147	1195	19.44
4H-6, 9–11	34.09–34.10	0.727	4692	1.28	6006	242	4.02
4H-6, 90–92	34.90–34.91	0.744	4692	1.30	6100	610	9.99
4H-6, 141–143	35.41–35.42	0.755	4692	1.30	6100	609	9.99
4H-7, 9–11	35.59–35.60	0.759	4692	1.30	6100	466	7.64
4H-7, 51–53	36.01–36.02	0.768	4692	1.30	6100	287	4.70
5H-1, 9–11	36.09–36.10	0.769	4692	1.17	5490	414	7.54
4H-CC, 9–11	36.39–36.40	0.776	4692	1.40	6569	394	6.00
5H-1, 90–92	36.90–36.91	0.788	3775	1.40	5284	506	9.58
5H-1, 140–142	37.40–37.41	0.801	3775	1.40	5284	903	17.10
5H-1, 140–142	37.40–37.41	0.801	3775	1.40	5284	903	17.10
5H-2, 9–11	37.59–37.60	0.806	3775	1.29	4869	427	8.78
5H-2, 90–92	38.40–38.41	0.828	3775	1.60	6039	284	4.70
5H-2, 140–142	38.90–38.91	0.841	3775	1.60	6039	713	11.81
5H-3, 9–11	39.09–39.10	0.846	3775	1.47	5549	1492	26.88
5H-3, 90–92	39.90–39.91	0.868	3775	1.21	4567	405	8.86
5H-4, 9–11	40.59–40.60	0.886	3775	1.41	5322	434	8.16
5H-4, 51–53	41.01–41.02	0.897	3775	1.41	5322	341	6.40
5H-4, 90–92	41.40–41.41	0.907	3775	1.42	5360	1344	25.07
5H-4, 140–142	41.90–41.91	0.921	3775	1.42	5360	194	3.62
5H-4, 140–142	41.90–41.91	0.921	3775	1.42	5360	194	3.62
5H-5, 9–11	42.09–42.10	0.926	3775	1.45	5473	214	3.91
5H-5, 90–92	42.90–42.91	0.947	3775	1.45	5473	3118	56.96

Table 2A (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y.)	DBD (gcm ⁻³)	BAR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	>63 µm (wt%)
5H-5, 140–142	43.40–43.41	0.960	3775	1.45	5473	845	15.45
5H-6, 9–11	43.59–43.60	0.965	3775	1.71	6454	14	0.22
5H-6, 51–53	44.01–44.02	0.977	3775	1.71	6454	562	8.71
5H-6, 90–92	44.40–44.41	0.987	4308	1.38	5945	663	11.15
5H-6, 140–142	44.90–44.91	0.998	4308	1.38	5945	422	7.10
5H-6, 140–142	44.90–44.91	0.998	4308	1.38	5945	422	7.10
5H-7, 9–11	45.09–45.10	1.003	4308	1.38	5945	819	13.79
6H-1, 9–11	45.59–45.60	1.014	4308	1.41	6074	779	12.83
5H-CC, 9–11	45.80–45.81	1.019	4308	1.41	6074	261	4.29
6H-1, 90–93	46.40–46.42	1.033	4308	1.31	5643	757	13.41
6H-1, 140–142	46.90–46.91	1.045	4308	1.31	5643	1121	19.87
6H-2, 9–11	47.09–47.10	1.049	8687	1.31	11380	715	6.29
6H-2, 51–53	47.51–47.52	1.054	8687	1.31	11380	931	8.18
6H-3, 9–11	47.86–47.87	1.058	8687	1.40	12162	1246	10.25
6H-3, 52–54	48.29–48.30	1.063	8687	1.40	12162	1010	8.31
6H-4, 9–11	48.69–48.70	1.067	8687	1.39	12075	1194	9.89
6H-4, 90–93	49.50–49.52	1.077	8687	1.36	11814	4214	35.67
6H-4, 137–139	49.97–49.98	1.082	8687	1.36	11814	645	5.46
6H-5, 9–11	50.11–50.12	1.084	8687	1.30	11293	1285	11.38
6H-5, 90–93	50.92–50.94	1.093	8687	1.30	11293	825	7.30
6H-6, 9–11	51.53–51.54	1.100	8687	1.28	11119	1756	15.79
6H-6, 51–53	51.95–51.96	1.105	8687	1.28	11119	3087	27.76
6H-6, 90–93	52.34–52.36	1.109	8687	1.40	12162	4390	36.10
6H-6, 140–142	52.84–52.85	1.115	8687	1.40	12162	2301	18.92
6H-6, 140–142	52.84–52.85	1.115	8687	1.40	12162	2301	18.92
6H-7, 9–11	52.95–52.96	1.116	8687	1.72	14942	2868	19.19
6H-7, 90–93	53.76–53.78	1.126	8687	1.50	13031	2948	22.63
6H-CC, 9–11	54.37–54.38	1.133	8687	1.48	12857	2826	21.98
7H-1, 9–11	55.59–55.60	1.147	8687	1.39	12075	610	5.05
7H-1, 51–54	56.01–56.03	1.152	8687	1.39	12075	738	6.11
7H-1, 51–54	56.01–56.03	1.152	8687	1.39	12075	738	6.11
7H-1, 90–93	56.40–56.42	1.156	8687	1.39	12075	1181	9.78
7H-2, 9–11	57.00–57.01	1.163	8687	1.60	13899	2226	16.01
7H-2, 51–54	57.42–57.44	1.168	8687	1.60	13899	1883	13.55
7H-2, 90–93	57.81–57.83	1.172	8687	1.48	12857	1865	14.51
7H-2, 137–140	58.28–58.30	1.178	8687	1.48	12857	4122	32.06
7H-2, 137–140	58.28–58.30	1.178	8687	1.48	12857	4122	32.06
7H-2, 137–140	58.28–58.30	1.178	8687	1.48	12857	4122	32.06
7H-3, 9–11	58.41–58.42	1.179	8687	1.39	12075	1614	13.36
7H-3, 90–93	59.22–59.24	1.189	8687	1.27	11033	1595	14.46
7H-3, 137–140	59.69–59.71	1.194	8687	1.27	11033	1014	9.19
7H-3, 137–140	59.69–59.71	1.194	8687	1.27	11033	1014	9.19
7H-4, 9–11	59.82–59.83	1.196	8687	1.31	11380	823	7.24
7H-4, 90–93	60.63–60.65	1.205	8687	1.32	11467	797	6.95
7H-4, 137–140	61.10–61.12	1.210	8687	1.32	11467	339	2.96
7H-5, 9–11	61.23–61.24	1.212	8687	1.32	11467	367	3.20
7H-5, 51–54	61.65–61.67	1.217	8687	1.32	11467	820	7.15
7H-5, 90–93	62.04–62.06	1.221	8687	1.43	12423	393	3.16
7H-6, 9–11	62.64–62.65	1.228	8687	1.22	10598	647	6.11
7H-6, 51–54	63.06–63.08	1.233	8687	1.22	10598	114	1.08
7H-6, 90–93	63.45–63.47	1.237	8687	1.25	10859	22	0.21
7H-6, 139–142	63.94–63.96	1.243	8687	1.25	10859	337	3.10
7H-6, 139–142	63.94–63.96	1.243	8687	1.25	10859	336	3.10
7H-7, 9–11	64.14–64.15	1.245	8687	1.23	10685	20	0.19
7H-7, 51–54	64.56–64.58	1.250	8687	1.23	10685	382	3.57
7H-7, 90–93	64.95–64.97	1.255	8687	1.23	10685	178	1.67
8H-1, 6–8	65.06–65.07	1.256	8687	1.35	11728	5229	44.59
8H-1, 50–52	65.50–65.51	1.261	8687	1.35	11728	768	6.54
7H-CC, 9–11	65.64–65.65	1.263	8687	1.35	11728	956	8.15
8H-1, 90–92	65.90–65.91	1.266	8687	1.35	11728	851	7.26
8H-1, 136–138	66.36–66.37	1.271	8687	1.35	11728	1	0.01
8H-1, 136–138	66.36–66.37	1.271	8687	1.35	11728	1	0.01
8H-2, 9–11	66.49–66.50	1.272	8687	1.29	11206	786	7.01
8H-2, 50–52	66.90–66.91	1.277	8687	1.29	11206	497	4.44
8H-2, 90–92	67.30–67.31	1.282	8687	1.74	15116	5706	37.75
8H-2, 136–138	67.76–67.77	1.287	8687	1.74	15116	2352	15.56
8H-3, 9–11	67.89–67.90	1.288	8687	1.36	11814	1849	15.65
8H-3, 50–52	68.30–68.31	1.293	8687	1.36	11814	2887	24.43
8H-3, 90–92	68.70–68.71	1.298	8687	1.36	11814	1361	11.52
8H-4, 9–11	69.30–69.31	1.305	8687	1.34	11641	713	6.13
8H-4, 90–92	70.11–70.12	1.314	8687	1.33	11554	662	5.73
8H-4, 136–138	70.57–70.58	1.319	8687	1.33	11554	574	4.97
8H-5, 9–11	70.71–70.72	1.321	8687	1.33	11554	544	4.70
8H-5, 90–92	71.52–71.53	1.330	8687	1.63	14160	1095	7.73
8H-6, 9–11	71.73–71.74	1.333	8687	1.63	14160	1186	8.38
8H-7, 9–11	72.39–72.40	1.340	8687	1.38	11988	622	5.19
8H-7, 90–92	73.20–73.21	1.350	8687	1.36	11814	749	6.34
8H-7, 136–138	73.66–73.67	1.355	8687	1.36	11814	568	4.81
8H-8, 9–11	73.90–73.91	1.358	8687	1.36	11814	724	6.13
9H-1, 9–11	74.09–74.10	1.360	8687	1.50	13031	599	4.60
9H-1, 90–92	74.90–74.91	1.369	8687	1.50	13031	1007	7.73
9H-1, 137–139	75.37–75.38	1.375	8687	1.50	13031	1648	12.65
9H-1, 137–139	75.37–75.38	1.375	8687	1.50	13031	1648	12.65
9H-2, 9–11	75.49–75.50	1.376	8687	1.38	11988	2318	19.33
9H-2, 51–53	75.91–75.92	1.381	8687	1.38	11988	1198	9.99
9H-2, 90–92	76.30–76.31	1.385	8687	1.30	11293	484	4.29
9H-3, 9–11	76.89–76.90	1.392	8687	1.30	11293	624	5.53
9H-3, 90–92	77.70–77.71	1.401	8687	1.37	11901	4291	36.05
9H-4, 9–11	78.29–78.30	1.408	8687	1.39	12075	657	5.44

Table 2A (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y.)	DBD (gcm^{-3})	BAR ($\text{gcm}^{-2}\text{m.y.}^{-1}$)	$>63 \mu\text{m}$ AR ($\text{gcm}^{-2}\text{m.y.}^{-1}$)	$>63 \mu\text{m}$ (wt%)
9H-4, 90–92	79.10–79.11	1.417	8687	1.39	12075	1384	11.46
9H-4, 137–139	79.57–79.58	1.423	8687	1.39	12075	851	7.04
9H-5, 9–11	79.69–79.70	1.424	8687	1.37	11901	1159	9.74
9H-5, 90–92	80.50–80.51	1.434	8687	1.49	12944	986	7.62
9H-6, 9–11	81.09–81.10	1.440	8687	1.54	13378	1414	10.57
9H-6, 90–92	81.90–81.91	1.450	8687	1.47	12770	503	3.94
9H-7, 9–11	82.49–82.50	1.457	8687	1.47	12770	1727	13.52
9H-CC, 9–11	82.72–82.73	1.459	8687	1.45	12596	2016	16.00
10H-1, 97–99	83.57–83.58	1.469	8687	1.42	12336	1229	9.96
10H-CC, 9–11	84.19–84.20	1.476	8687	1.30	11293	1803	15.97
11H-1, 5–7	84.45–84.46	1.479	8687	1.25	10859	830	7.64
11H-1, 90–92	85.30–85.31	1.489	8687	1.25	10859	1102	10.15
11H-2, 9–11	85.89–85.90	1.496	8687	1.30	11293	521	4.61
11H-2, 89–91	86.69–86.70	1.505	8687	1.49	12944	4159	32.13
11H-3, 9–11	87.29–87.30	1.512	8687	1.74	15116	2547	16.85
11H-3, 89–91	88.09–88.10	1.521	8687	1.36	11814	1246	10.55
11H-4, 9–11	88.69–88.70	1.528	8687	1.33	11554	170	1.47
11H-4, 51–53	89.11–89.12	1.533	8687	1.33	11554	553	4.78
11H-4, 89–91	89.49–89.50	1.537	8687	1.37	11901	1474	12.38
11H-5, 9–11	90.09–90.10	1.544	8687	1.48	12857	1467	11.41
11H-5, 89–91	90.89–90.90	1.553	8687	1.48	12857	2109	16.40
11H-6, 9–11	91.49–91.50	1.560	8687	1.41	12249	2780	22.70
15I-909C-							
1R-1, 64–66	85.64–85.65	1.493	8681	1.33	11546	1248	10.81
3R-1, 64–66	104.94–104.95	1.715	8681	1.56	13543	632	4.67
3R-2, 64–66	106.44–106.45	1.732	8681	1.33	11546	1020	8.83
4R-1, 64–66	114.54–114.55	1.826	8681	1.32	11460	491	4.28
4R-2, 64–66	116.04–116.05	1.843	8681	1.44	12501	1129	9.03
5R-1, 19–21	123.79–123.80	1.932	8681	1.41	12241	2470	20.17
6R-1, 64–66	133.84–133.85	2.048	8681	1.42	12328	1211	9.83
6R-2, 64–66	135.34–135.35	2.065	8681	1.38	11980	1337	11.16
6R-3, 64–66	136.84–136.85	2.082	8681	1.43	12415	1189	9.58
7R-1, 65–67	143.55–143.56	2.160	8681	1.45	12588	574	4.56
7R-2, 65–67	145.05–145.06	2.177	8681	1.38	11980	332	2.77
7R-3, 65–67	146.55–146.56	2.194	8681	1.44	12501	697	5.58
7R-4, 65–67	148.05–148.06	2.212	8681	1.39	12067	1511	12.52
8R-1, 65–67	153.25–153.26	2.271	8681	1.34	11633	323	2.77
8R-2, 65–67	154.75–154.76	2.289	8681	1.37	11894	794	6.67
8R-3, 65–67	156.25–156.26	2.306	8681	1.44	12501	736	5.89
8R-4, 65–67	157.75–157.76	2.323	8681	1.39	12067	597	4.95
8R-5, 65–67	159.25–159.26	2.341	8681	1.47	12762	149	1.17
9R-1, 64–66	162.94–162.95	2.383	8681	1.28	11112	755	6.80
9R-2, 64–66	164.44–164.45	2.400	8681	1.37	11894	292	2.46
9R-3, 64–66	165.94–165.95	2.418	8681	1.20	10418	410	3.94
9R-4, 64–66	167.44–167.45	2.435	8681	1.43	12415	1199	9.66
10R-1, 64–66	172.54–172.55	2.494	8681	1.73	15019	608	4.05
10R-2, 64–66	174.04–174.05	2.511	8681	1.46	12675	4217	33.27
10R-3, 64–66	175.54–175.55	2.528	8681	1.46	12675	7084	55.89
10R-4, 54–56	176.94–176.95	2.544	8681	1.51	13109	518	3.95
10R-4, 64–66	177.04–177.05	2.545	8681	1.47	12762	492	3.85
10R-5, 64–66	178.54–178.55	2.563	8681	1.42	12328	752	6.10
10R-6, 64–66	180.04–180.05	2.580	8681	1.38	11980	823	6.87
11R-1, 65–67	182.25–182.26	2.612	6847	1.39	9517	351	3.69
11R-2, 64–66	183.74–183.75	2.634	6847	1.37	9380	626	6.67
11R-3, 64–66	185.24–185.25	2.656	6847	1.39	9517	7	0.07
11R-4, 64–66	186.74–186.75	2.678	6847	1.43	9791	600	6.12
11R-5, 64–66	188.24–188.25	2.700	6847	1.73	11845	3459	29.20
11R-6, 64–66	189.74–189.75	2.722	6847	1.51	10339	1223	11.83
12R-1, 64–66	191.84–191.85	2.752	6847	1.64	11229	897	7.99
12R-2, 64–66	193.34–193.35	2.774	6847	1.47	10065	428	4.25
12R-3, 64–66	194.84–194.85	2.796	6847	1.37	9380	370	3.94
12R-4, 64–66	196.34–196.35	2.818	6847	1.37	9380	661	7.05
12R-5, 64–66	197.84–197.85	2.840	6847	1.42	9722	659	6.78
13R-1, 64–66	201.44–201.45	2.893	6847	1.39	9517	758	7.97
13R-2, 64–66	202.94–202.95	2.914	6847	1.45	9928	502	5.06
13R-3, 64–66	204.44–204.45	2.936	6847	1.47	10065	708	7.03
13R-4, 64–66	205.94–205.95	2.958	6847	1.61	11023	884	8.02
13R-5, 64–66	207.44–207.45	2.980	6847	1.31	8969	351	3.91
13R-6, 68–70	208.98–208.99	3.003	6847	1.17	8011	52	0.64
14R-1, 64–66	211.14–211.15	3.034	6847	1.48	10133	209	2.06
14R-2, 64–66	212.64–212.65	3.056	6847	1.50	10270	648	6.31
14R-3, 64–66	214.14–214.15	3.078	6847	1.65	11297	650	5.75
14R-4, 64–66	215.64–215.65	3.100	6847	1.45	9928	177	1.78
14R-5, 64–66	217.14–217.15	3.122	6847	1.51	10339	456	4.41
14R-6, 64–66	218.64–218.65	3.144	6847	1.37	9380	328	3.50
15R-1, 64–66	220.74–220.75	3.174	6847	1.34	9175	7	0.08
15R-2, 64–66	222.24–222.25	3.196	6847	1.44	9859	326	3.31
15R-3, 64–66	223.74–223.75	3.218	6847	1.57	10749	382	3.56
15R-4, 64–66	225.24–225.25	3.240	6847	1.39	9517	217	2.28
16R-1, 64–66	230.24–230.25	3.313	6847	1.45	9928	573	5.78
16R-2, 64–66	231.74–231.75	3.335	6847	1.41	9654	744	7.70
16R-3, 64–66	233.24–233.25	3.357	6847	1.59	10886	1735	15.94
16R-4, 64–66	234.74–234.75	3.379	6847	1.52	10407	333	3.20
17R-1, 64–67	239.84–239.86	3.453	6847	1.48	10133	366	3.62
17R-2, 64–67	241.34–241.36	3.475	6847	1.43	9791	393	4.02
17R-3, 64–67	242.84–242.86	3.497	6847	1.41	9654	470	4.87
17R-4, 64–67	244.34–244.36	3.519	6847	1.46	9996	188	1.89
17R-5, 64–67	245.84–245.86	3.541	6847	1.46	9996	1469	14.70

Table 2A (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y.)	DBD (gcm ⁻³)	BAR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	>63 µm (wt%)
17R-6, 64–67	247.34–247.36	3.562	8656	1.52	13158	296	2.25
22R-1, 65–67	288.15–288.16	4.033	8656	1.45	12552	432	3.44
22R-2, 65–67	289.65–289.66	4.084	2426	1.48	3590	410	11.41
22R-3, 65–67	291.15–291.16	4.144	3053	1.50	4580	119	2.60
22R-4, 65–67	292.65–292.66	4.193	3053	1.59	4855	191	3.93
22R-5, 65–67	294.15–294.16	4.242	3053	1.55	4733	808	17.07
22R-6, 65–67	295.65–295.66	4.288	3683	1.51	5561	741	13.32
23R-1, 65–67	297.75–297.76	4.345	3683	1.46	5377	308	5.73
23R-2, 65–67	299.25–299.26	4.385	3683	1.50	5524		
23R-3, 65–67	300.75–300.76	4.426	3683	1.51	5561	173	3.11
23R-4, 65–67	302.25–302.26	4.453	7039	1.50	10559	401	3.80
24R-1, 68–70	307.48–307.49	4.527	7039	1.56	10981	965	8.79
24R-2, 68–70	308.98–308.99	4.548	7039	1.54	10840	256	2.36
24R-3, 68–70	310.48–310.49	4.570	7039	1.49	10488	167	1.60
24R-4, 68–70	311.98–311.99	4.591	7039	1.51	10629	443	4.17
24R-5, 71–73	313.51–313.52	4.613	7039	1.56	10981	1297	11.81
25R-1, 64–66	317.04–317.05	4.677	5422	1.57	8512	447	5.25
25R-2, 64–66	318.54–318.55	4.701	17458	1.56	27234	599	2.20
25R-3, 64–66	320.04–320.05	4.709	17458	1.46	25488	101	0.40
25R-4, 64–66	321.54–321.55	4.718	17458	1.51	26361	156	0.59
26R-1, 64–66	326.64–326.65	4.747	17458	1.52	26536	580	2.19
26R-2, 64–66	328.14–328.15	4.756	17458	1.60	27932	418	1.50
26R-3, 64–66	329.64–329.65	4.764	17458	1.58	27583	688	2.50
26R-4, 64–66	331.14–331.15	4.773	17458	1.47	25663	912	3.56
26R-5, 64–66	332.64–332.65	4.781	17458	1.48	25837	839	3.25
26R-6, 66–68	334.16–334.17	4.790	17458	1.51	26361	952	3.61
27R-1, 66–68	336.36–336.37	4.803	17458	1.48	25837	253	0.98
27R-2, 63–65	337.83–337.84	4.811	17458	1.48	25837	358	1.39
27R-3, 64–66	339.34–339.35	4.826	5214	1.43	7456	183	2.45
27R-4, 64–66	340.84–340.85	4.855	5214	1.47	7664	17	0.22
28R-1, 64–66	345.94–345.95	4.953	5214	1.55	8081	126	1.56
28R-2, 64–66	347.44–347.45	4.982	5214	1.24	6465	26	0.40
28R-3, 64–66	348.94–348.95	5.011	5214	1.69	8811	91	1.04
28R-4, 64–66	350.44–350.45	5.039	5214	1.75	9124	33	0.37
29R-1, 64–66	355.54–355.55	5.226	2572	1.47	3781	1	0.03
29R-2, 56–58	356.96–356.97	5.281	2572	1.41	3627	3	0.08
29R-3, 64–66	358.54–358.55	5.342	2572	1.55	3987	10	0.25
29R-4, 64–66	360.04–360.05	5.401	2572	1.49	3832	14	0.37
29R-5, 64–66	361.54–361.55	5.459	2572	1.25	3215	18	0.56
31R-1, 64–66	374.74–374.75	5.757	14416	1.47	21191	582	2.75
31R-2, 64–66	376.24–376.25	5.767	14416	1.55	22344	369	1.65
31R-3, 64–66	377.74–377.75	5.777	14416	1.68	24218	129	0.53
31R-4, 64–66	379.24–379.25	5.788	14416	1.59	22921	563	2.46
31R-5, 64–66	380.74–380.75	5.798	14416	1.54	22200	178	0.80
31R-6, 64–66	382.24–382.25	5.809	14416	1.53	22056	888	4.03
32R-1, 64–66	384.24–384.25	5.823	14416	1.57	22632	1429	6.31
32R-2, 64–66	385.74–385.75	5.833	14416	1.54	22200	819	3.69
32R-3, 64–66	387.24–387.25	5.843	14416	1.52	21912	654	2.98
32R-4, 64–66	388.74–388.75	5.854	14416	1.49	21479	282	1.31
32R-5, 64–66	390.24–390.25	5.864	14416	1.54	22200	785	3.54
33R-1, 64–66	393.74–393.75	5.888	14416	1.52	21912	1024	4.67
33R-2, 64–66	395.24–395.25	5.899	14416	1.47	21191	816	3.85
33R-3, 64–66	396.74–396.75	5.909	14416	1.51	21768	742	3.41
33R-4, 64–66	398.24–398.25	5.920	14416	1.53	22056	725	3.29
33R-5, 64–66	399.74–399.75	5.930	14416	1.49	21479	725	3.38
33R-6, 64–66	401.24–401.25	5.940	14416	1.30	18740	437	2.33
34R-1, 64–66	403.44–403.45	5.956	14416	1.54	22200	746	3.36
34R-2, 64–66	404.94–404.95	5.966	14416	1.31	18884	434	2.30
34R-3, 64–66	406.44–406.45	5.977	14416	1.56	22488	478	2.13
34R-4, 64–66	407.94–407.95	5.987	14416	1.57	22632	765	3.38
34R-5, 64–66	409.44–409.45	5.997	14416	1.53	22056	400	1.81
34R-6, 63–65	410.93–410.94	6.008	14416	1.46	21047	303	1.44
35R-1, 64–67	413.04–413.06	6.022	14416	1.55	22344	990	4.43
35R-2, 64–67	414.54–414.56	6.033	14416	1.49	21479	810	3.77
35R-3, 64–67	416.04–416.06	6.043	14416	1.54	22200	767	3.45
35R-4, 64–67	417.54–417.56	6.054	14416	1.57	22632	1218	5.38
35R-5, 64–67	419.04–419.06	6.064	14416	1.56	22488	1087	4.83
35R-6, 64–67	420.54–420.56	6.074	14416	1.57	22632	838	3.70
35R-7, 64–67	422.04–422.06	6.085	14416	1.51	21768	177	0.81
36R-1, 64–66	422.74–422.75	6.090	14416	1.51	21768	478	2.19
36R-2, 64–66	424.24–424.25	6.100	14416	1.53	22056	657	2.98
36R-3, 64–66	425.74–425.75	6.110	14416	1.55	22344	387	1.73
36R-4, 64–66	427.24–427.25	6.121	14416	1.57	22632	1525	6.74
36R-5, 64–66	428.74–428.75	6.131	14416	1.43	20614	818	3.97
36R-6, 64–66	430.24–430.25	6.142	14416	1.59	22921	619	2.70
37R-1, 54–56	432.24–432.25	6.156	14416	1.55	22344	866	3.87
37R-2, 54–56	433.74–433.75	6.166	14416	1.56	22488	882	3.92
37R-3, 54–56	435.24–435.25	6.176	14416	1.60	23065	676	2.93
37R-4, 54–56	436.74–436.75	6.187	14416	1.66	23930	1247	5.21
37R-5, 54–56	438.24–438.25	6.197	14416	1.65	23786	439	1.84
37R-6, 54–56	439.74–439.75	6.208	14416	1.67	24074	260	1.08
38R-1, 68–70	441.98–441.99	6.223	14416	1.69	24362	85	0.35
38R-2, 68–70	443.48–443.49	6.233	14416	1.56	22488	69	0.31
38R-3, 68–70	444.98–444.99	6.244	14416	1.51	21768	44	0.20
	451.16–451.17	6.287	14416	1.51	21768	131	0.60
39R-1, 63–65	451.63–451.64	6.290	14416	1.52	21912	154	0.70
40R-1, 63–65	461.23–461.24	6.357	14416	1.54	22200	714	3.21
40R-2, 63–65	462.73–462.74	6.367	14416	1.52	21912	619	2.82
40R-3, 67–69	464.27–464.28	6.378	14416	1.60	23065	213	0.92

Table 2A (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y.)	DBD (gcm ⁻³)	BAR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	>63 µm (wt%)
40R-4, 65–67	465.75–465.76	6.388	14416	1.53	22056	589	2.67
	466.77–466.78	6.395	14416	1.53	22056	5598	25.38
40R-5, 63–66	467.23–467.25	6.398	14416	1.69	24362	771	3.16
41R-1, 64–66	470.94–470.95	6.424	14416	1.62	23353	557	2.39
41R-2, 64–66	472.44–472.45	6.434	14416	1.52	21912	299	1.36
	473.44–473.45	6.441	14416	1.51	21768	757	3.48
41R-3, 64–66	473.94–473.95	6.445	14416	1.50	21623	592	2.74
41R-4, 66–68	475.46–475.47	6.455	14416	1.57	22632	289	1.28
41R-5, 69–71	476.99–477.00	6.466	14416	1.56	22488	553	2.46
41R-6, 66–68	478.46–478.47	6.476	14416	1.51	21768	384	1.76
42R-1, 64–66	480.64–480.65	6.491	14416	1.50	21623	414	1.91
42R-2, 64–66	482.14–482.15	6.502	14416	1.62	23353	490	2.10
42R-3, 64–66	483.64–483.65	6.512	14416	1.53	22056	234	1.06
	484.64–484.65	6.519	14416	1.52	21912	608	2.78
42R-4, 69–71	485.19–485.20	6.523	14416	1.50	21623	94	0.44
42R-5, 64–66	486.64–486.65	6.533	14416	1.53	22056	344	1.56
43R-1, 65–67	490.15–490.16	6.557	14416	1.57	22632	168	0.74
43R-2, 64–66	491.64–491.65	6.568	14416	1.61	23209	399	1.72
43R-3, 64–66	493.14–493.15	6.578	14416	1.58	22777	577	2.53
43R-4, 64–66	494.64–494.65	6.588	14416	1.52	21912	451	2.06
43R-5, 64–66	496.14–496.15	6.599	14416	1.57	22632	550	2.43
43R-6, 64–66	497.64–497.65	6.609	14416	1.57	22632	321	1.42
	499.12–499.13	6.619	14416	1.62	23353	319	1.37
43R-7, 63–65	499.13–499.14	6.620	14416	1.71	24651	464	1.88
44R-1, 65–67	499.65–499.66	6.623	14416	1.65	23786	175	0.73
44R-2, 65–67	501.15–501.16	6.634	14416	1.49	21479	566	2.63
44R-3, 65–67	502.65–502.66	6.644	14416	1.48	21335	319	1.49
44R-4, 66–68	504.16–504.17	6.654	14416	1.50	21623	149	0.69
44R-5, 63–65	505.63–505.64	6.665	14416	1.59	22921	139	0.61
44R-6, 66–68	507.16–507.17	6.675	14416	1.58	22777	165	0.72
45R-1, 64–66	509.24–509.25	6.690	14416	1.55	22344	170	0.76
45R-2, 64–66	510.74–510.75	6.700	14416	1.60	23065	154	0.67
45R-3, 64–66	512.24–512.25	6.710	14416	1.61	23209	499	2.15
45R-4, 64–66	513.74–513.75	6.721	14416	1.52	21912	129	0.59
45R-5, 64–66	515.24–515.25	6.731	14416	1.62	23353	49	0.21
	516.28–516.29	6.738	14416	1.62	23353	373	1.60
46R-1, 64–66	518.94–518.95	6.757	14416	1.45	20903	24	0.11
	519.94–519.95	6.764	14416	1.45	20903	116	0.55
46R-2, 64–66	520.44–520.45	6.767	14416	1.47	21191	19	0.09
46R-3, 64–66	521.94–521.95	6.778	14416	1.55	22344	37	0.16
46R-4, 64–66	523.44–523.45	6.788	14416	1.55	22344	62	0.28
47R-1, 65–67	528.65–528.66	6.824	14416	1.58	22777	208	0.91
47R-2, 63–66	530.13–530.15	6.835	14416	1.59	22921	126	0.55
	531.14–531.15	6.842	14416	1.59	22921	432	1.88
47R-3, 62–65	531.62–531.64	6.845	14416	1.69	24362	266	1.09
47R-4, 66–68	533.16–533.17	6.856	14416	1.69	24362	833	3.42
47R-5, 63–66	534.63–534.65	6.866	14416	1.53	22056	283	1.28
47R-6, 64–66	536.14–536.15	6.876	14416	1.55	22344	387	1.73
48R-1, 63–66	538.33–538.35	6.891	14416	1.64	23642	72	0.30
	539.34–539.35	6.898	14416	1.68	24218	8384	34.62
48R-2, 63–66	539.83–539.85	6.902	14416	1.72	24795	135	0.54
48R-3, 63–66	541.33–541.35	6.912	14416	1.63	23497	731	3.11
48R-4, 63–66	542.83–542.85	6.923	14416	1.75	25227	395	1.57
48R-5, 63–66	544.33–544.35	6.933	14416	1.55	22344	520	2.33
48R-6, 63–66	545.83–545.85	6.944	14416	1.68	24218	356	1.47
49R-1, 64–66	547.94–547.95	6.958	14416	1.69	24362	921	3.78
49R-2, 64–67	548.74–548.76	6.964	14416	1.44	20758	1442	6.95
49R-3, 63–66	550.23–550.25	6.974	14416	1.69	24362	916	3.76
49R-4, 65–68	551.75–551.77	6.985	14416	1.65	23786	214	0.90
49R-5, 63–66	553.23–553.25	6.995	14416	1.68	24218	49	0.20
	554.23–554.24	7.002	14416	1.68	24218	2089	8.62
49R-6, 63–66	554.73–554.75	7.005	14416	1.46	21047	31	0.15
49R-7, 64–67	556.18–556.20	7.015	14416	1.79	25804	106	0.41
50R-1, 64–66	557.54–557.55	7.025	14416	1.67	24074	11	0.05
50R-2, 54–57	558.94–558.96	7.034	14416	1.67	24074	2329	9.67
	560.04–560.05	7.042	14416	1.67	24074	5402	22.44
50R-3, 64–66	560.54–560.55	7.046	14416	1.61	23209	44	0.19
50R-4, 64–66	562.04–562.05	7.056	14416	1.57	22632	10	0.04
51R-1, 65–67	567.25–567.26	7.092	14416	1.59	22921	134	0.58
	568.23–568.24	7.099	14416	1.59	22921	3403	14.84
51R-2, 64–66	568.74–568.75	7.102	14416	1.59	22921	175	0.76
51R-3, 64–66	570.24–570.25	7.113	14416	1.63	23497	571	2.43
51R-4, 64–66	571.74–571.75	7.123	14416	1.64	23642	1131	4.78
52R-1, 64–66	576.84–576.85	7.159	14416	1.65	23786	481	2.02
52R-2, 64–66	578.34–578.35	7.169	14416	1.62	23353	569	2.44
	579.33–579.34	7.176	14416	1.63	23497	7979	33.96
52R-3, 62–64	579.82–579.83	7.179	14416	1.64	23642	784	3.32
52R-4, 65–67	581.35–581.36	7.190	14416	1.67	24074	87	0.36
53R-1, 64–66	586.44–586.45	7.225	14416	1.62	23353	117	0.50
53R-2, 64–66	587.94–587.95	7.236	14416	1.61	23209	679	2.92
53R-3, 64–66	589.44–589.45	7.246	14416	1.63	23497	416	1.77
	590.44–590.45	7.257	6646	1.63	10833	1018	9.40
53R-4, 64–66	590.94–590.95	7.264	6646	1.63	10833	130	1.20
53R-5, 64–66	592.44–592.45	7.287	6646	1.76	11697	668	5.71
	595.64–595.65	7.335	6646	1.72	11431	2116	18.51
54R-1, 62–63	596.12–596.13	7.342	6646	1.70	11298	269	2.38
54R-2, 66–68	597.66–597.67	7.365	6646	1.65	10966	132	1.20
54R-3, 63–65	599.13–599.14	7.387	6646	1.69	11232	535	4.77
	605.23–605.24	7.479	6646	1.69	11232	4414	39.30

Table 2A (continued).

Core, section, interval (cm)	Depth (mbfs)	Age (m.y.)	LSR (cm m.y.)	DBD (gcm ⁻³)	BAR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	>63 µm (wt%)
55R-1, 64–66	605.74–605.75	7.487	6646	1.69	11232	71	0.63
55R-2, 64–66	607.24–607.25	7.509	6646	1.62	10767	383	3.56
55R-3, 63–65	608.73–608.74	7.532	6646	1.68	11165	56	0.50
55R-4, 64–66	610.24–610.25	7.555	6646	1.73	11498	804	6.99
55R-5, 64–66	611.74–611.75	7.577	6646	1.79	11896	219	1.84
55R-6, 64–66	613.24–613.25	7.600	6646	1.75	11631	814	7.00
	614.94–614.95	7.625	6646	1.75	11631	1332	11.46
56R-1, 64–66	615.44–615.45	7.633	6646	1.74	11564	353	3.05
	624.54–624.55	7.770	6646	1.74	11564	291	2.52
57R-1, 64–66	625.04–625.05	7.777	6646	1.69	11232	191	1.70
57R-2, 64–66	626.54–626.55	7.800	6646	1.67	11099	347	3.13
57R-3, 64–66	628.04–628.05	7.822	6646	1.70	11298	566	5.01
57R-4, 64–66	629.54–629.55	7.845	6646	1.73	11498	328	2.85
57R-5, 65–67	631.05–631.06	7.866	6646	1.72	11431	452	3.95
58R-1, 64–66	634.74–634.75	7.943	3768	1.65	6217	19	0.30
	635.70–635.71	7.969	3768	1.65	6217	340	5.48
59R-1, 64–66	644.34–644.35	8.198	3768	1.59	5991	26	0.44
59R-2, 64–66	645.84–645.85	8.238	3768	1.76	6631	139	2.10
	646.84–646.85	8.264	3768	1.76	6631	943	14.22
59R-3, 64–66	647.34–647.35	8.278	3768	1.74	6556	352	5.36
59R-4, 64–66	648.84–648.85	8.318	3768	1.77	6669	125	1.88
59R-5, 64–66	650.34–650.35	8.357	3768	1.78	6706	40	0.60
	651.34–651.35	8.384	3768	1.78	6706	119	1.78
59R-6, 64–66	651.84–651.85	8.397	3768	1.74	6556	187	2.85
60R-1, 64–66	654.04–654.05	8.456	3768	1.74	6556	104	1.58
60R-2, 64–66	655.54–655.55	8.495	3768	1.75	6593	123	1.86
60R-3, 64–66	657.04–657.05	8.534	11446	1.79	20488	128	0.63
60R-4, 64–66	658.54–658.55	8.547	11446	1.82	20831	1071	5.14
60R-5, 64–66	660.04–660.05	8.560	11446	1.79	20488	219	1.07
60R-6, 64–66	661.54–661.55	8.574	11446	1.79	20488	955	4.66
61R-1, 63–65	663.63–663.64	8.592	11446	1.68	19229	541	2.82
61R-2, 62–65	665.12–665.14	8.605	11446	1.78	20373	880	4.32
61R-3, 64–66	666.64–666.65	8.618	11446	1.76	20145	949	4.71
	667.64–667.65	8.627	11446	1.76	20145	580	2.88
61R-4, 64–66	668.14–668.15	8.631	11446	1.78	20373	1149	5.64
61R-5, 64–66	669.64–669.65	8.644	11446	1.69	19343	569	2.94
62R-1, 63–66	673.33–673.35	8.677	11446	1.69	19343	912	4.71
62R-2, 63–66	674.83–674.85	8.690	11446	1.62	18542	1032	5.56
62R-3, 63–67	676.33–676.35	8.703	11446	1.72	19687	145	0.74
62R-4, 63–66	677.83–677.85	8.716	11446	1.69	19343	482	2.49
62R-5, 63–66	679.33–679.35	8.729	11446	1.69	19343	530	2.74
62R-6, 64–67	680.84–680.86	8.742	11446	1.69	19343	537	2.78
	681.84–681.85	8.751	11446	1.69	19343	124	0.64
62R-7, 64–67	682.34–682.36	8.755	11446	1.67	19114	99	0.52
63R-1, 63–65	682.93–682.94	8.760	11446	1.67	19114	234	1.23
	683.94–683.95	8.769	11446	1.67	19114	4145	21.68
63R-2, 63–65	684.43–684.44	8.774	11446	1.73	19801	712	3.59
63R-3, 63–65	685.93–685.94	8.787	11446	1.74	19916	176	0.89
	692.13–692.14	8.841	11446	1.74	19916	2807	14.09
64R-1, 63–65	692.63–692.64	8.845	11446	1.76	20145	395	1.96
64R-2, 63–65	694.13–694.14	8.858	11446	1.79	20488	923	4.51
64R-3, 63–65	695.63–695.64	8.873	9220	1.79	16504	97	0.58
64R-4, 63–65	697.13–697.14	8.889	9220	1.81	16689	250	1.50
64R-5, 65–68	698.65–698.67	8.906	9220	1.78	16412	268	1.63
65R-1, 65–67	702.25–702.26	8.945	9220	1.76	16228	846	5.21
65R-2, 64–66	703.74–703.75	8.961	9220	1.76	16228	202	1.25
	704.73–704.74	8.971	9220	1.76	16228	286	1.76
65R-3, 65–67	705.25–705.26	8.977	9220	1.74	16043	1086	6.77
65R-4, 64–66	706.74–706.75	8.993	9220	1.69	15582	217	1.39
65R-5, 64–66	708.24–708.25	9.010	9220	1.73	15951	571	3.58
65R-6, 62–64	709.72–709.73	9.026	9220	1.74	16043	267	1.67
66R-1, 64–66	711.74–711.75	9.047	9220	1.82	16781	1837	10.95
	712.74–712.75	9.058	9220	1.82	16781	912	5.44
66R-2, 64–66	713.24–713.25	9.064	9220	1.82	16781	659	3.93
67R-1, 67–69	721.47–721.48	9.153	9220	1.82	16781	229	1.36
67R-2, 67–69	722.97–722.98	9.169	9220	1.75	16135	403	2.50
67R-3, 67–69	724.47–724.48	9.186	9220	1.76	16228	749	4.62
67R-4, 63–65	725.93–725.94	9.201	9220	1.82	16781	182	1.08
67R-5, 63–65	727.43–727.44	9.218	9220	1.72	15859	219	1.38
	728.42–728.43	9.228	9220	1.72	15859	6883	43.40
67R-6, 63–65	728.93–728.94	9.234	9220	1.74	16043	2600	16.20
67R-7, 63–65	730.43–730.44	9.250	9220	1.76	16228	283	1.75
68R-1, 64–66	731.04–731.05	9.257	9220	1.82	16781	203	1.21
68R-2, 64–66	732.54–732.55	9.273	9220	1.84	16965	1067	6.29
68R-3, 64–66	734.04–734.05	9.289	9220	1.82	16781	1014	6.04
	735.04–735.05	9.300	9220	1.82	16781	1046	6.24
68R-4, 64–66	735.54–735.55	9.306	9220	1.86	17150	592	3.45
69R-1, 64–66	740.64–740.65	9.361	9220	1.72	15859	629	3.97
69R-2, 64–66	742.14–742.15	9.377	9220	1.74	16043	223	1.39
69R-3, 64–66	743.64–743.65	9.393	9220	1.75	16135	1004	6.22
69R-4, 64–66	745.14–745.15	9.410	9220	1.76	16228	764	4.71
69R-5, 64–66	746.64–746.65	9.426	9220	1.80	16596	1114	6.71
69R-6, 64–66	748.14–748.15	9.442	9220	1.77	16320	1305	8.00
	749.14–749.15	9.453	9220	1.77	16320	1844	11.30
70R-1, 65–67	750.25–750.26	9.465	9220	1.82	16781	1203	7.17
70R-2, 64–66	751.74–751.75	9.481	9220	1.76	16228	4664	28.74
70R-3, 64–66	753.24–753.25	9.498	9220	1.70	15674	1755	11.19
70R-4, 64–67	754.74–754.76	9.514	9220	1.81	16689	1586	9.50
70R-5, 62–64	756.22–756.23	9.530	9220	1.77	16320	1621	9.93

Table 2A (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	LSR (cm m.y.)	DBD (gcm ⁻³)	BAR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	>63 µm (wt%)
70R-6, 65–67	757.75–757.76	9.546	9220	1.79	16504	939	5.69
71R-1, 64–66	759.94–759.95	9.570	9220	1.81	16689	1089	6.52
71R-2, 64–66	761.44–761.45	9.587	9220	1.85	17057	1295	7.59
71R-3, 64–66	762.94–762.95	9.606	6127	1.88	11519	179	1.55
	765.48–765.49	9.647	6127	1.88	11519	2355	20.44
71R-5, 64–66	765.94–765.95	9.655	6127	1.83	11213	1247	11.12
71R-6, 64–66	767.44–767.45	9.679	6127	1.78	10906	701	6.42
72R-1, 64–66	769.64–769.65	9.715	6127	1.83	11213	1075	9.59
72R-2, 64–66	771.14–771.15	9.740	6127	1.81	11090	981	8.84
72R-3, 62–64	772.62–772.63	9.764	6127	1.83	11213	1132	10.10
	773.66–773.67	9.781	6127	1.83	11213	2702	24.09
72R-4, 64–66	774.14–774.15	9.789	6127	1.85	11335	982	8.66
72R-5, 64–66	775.64–775.65	9.813	6127	1.83	11213	909	8.10
72R-6, 64–66	777.14–777.15	9.838	6127	1.84	11274	877	7.78
73R-1, 65–67	779.35–779.36	9.874	6127	1.82	11152	286	2.57
73R-2, 64–66	780.84–780.85	9.898	6127	1.80	11029	949	8.60
73R-3, 64–66	782.34–782.35	9.922	6127	1.76	10784	1265	11.73
73R-4, 64–66	783.84–783.85	9.947	6127	1.79	10968	1395	12.72
73R-5, 64–66	785.34–785.35	9.971	6127	1.85	11335	756	6.67
	786.34–786.35	9.988	6127	1.85	11335	1006	8.87
73R-6, 65–67	786.85–786.86	9.996	6127	1.63	9987	205	2.06
74R-1, 64–66	788.94–788.95	10.030	6127	1.89	11580	982	8.48
74R-2, 64–66	790.44–790.45	10.055	6127	1.85	11335	772	6.81
	791.45–791.46	10.071	6127	1.85	11335	1437	12.68
74R-3, 64–66	791.94–791.95	10.079	6127	1.89	11580	480	4.14
74R-4, 64–66	793.44–793.45	10.104	6127	1.91	11703	119	1.02
74R-5, 64–66	794.94–794.95	10.128	6127	1.90	11642	1016	8.73
75R-1, 64–66	798.64–798.65	10.188	6127	1.82	11152	215	1.93
75R-2, 64–66	800.14–800.15	10.213	6127	1.91	11703	685	5.85
75R-3, 65–67	801.65–801.66	10.238	6127	1.98	12132	413	3.40
75R-4, 65–67	803.15–803.16	10.262	6127	1.75	10723	161	1.51
75R-5, 65–67	804.65–804.66	10.287	6127	1.80	11029	969	8.78
	805.64–805.65	10.303	6127	1.80	11029	925	8.39
75R-6, 64–66	806.14–806.15	10.311	6127	1.88	11519	359	3.12
75R-7, 64–66	807.64–807.65	10.335	6127	1.89	11580	295	2.55
76R-1, 64–66	808.24–808.25	10.345	6127	1.82	11152	189	1.70
76R-2, 64–66	809.74–809.75	10.370	6127	1.84	11274	653	5.79
	810.76–810.77	10.386	6127	1.84	11274	941	8.35
76R-3, 64–66	811.24–811.25	10.394	6127	1.81	11090	762	6.87
76R-4, 64–66	812.74–812.75	10.419	6127	1.85	11335	218	1.92
76R-5, 64–66	814.24–814.25	10.443	6127	1.87	11458	396	3.46
76R-6, 64–66	815.74–815.75	10.468	6127	1.88	11519	310	2.69
77R-1, 64–66	817.94–817.95	10.503	6127	1.87	11458	280	2.45
77R-2, 64–66	819.44–819.45	10.528	6127	1.88	11519	633	5.50
	820.44–820.45	10.544	6127	1.88	11519	1559	13.53
77R-3, 64–66	820.94–820.95	10.552	6127	1.81	11090	729	6.58
77R-4, 64–66	822.44–822.45	10.577	6127	1.83	11213	610	5.44
78R-1, 65–67	827.65–827.66	10.662	6127	1.81	11090	767	6.91
78R-2, 67–69	829.17–829.18	10.687	6127	1.79	10968	801	7.30
	830.12–830.13	10.702	6127	1.79	10968	3295	30.04
78R-3, 62–64	830.62–830.63	10.710	6127	1.91	11703	871	7.44
80R-1, 63–65	846.83–846.84	11.088	3342	1.91	6383	538	8.44
80R-2, 63–65	848.33–848.34	11.133	3342	1.95	6517	163	2.51
	849.34–849.35	11.163	3342	1.95	6517	288	4.42
80R-3, 63–65	849.83–849.84	11.178	3342	1.94	6483	56	0.87
80R-4, 64–66	851.34–851.35	11.223	3342	1.94	6483	73	1.13
80R-5, 64–66	852.84–852.85	11.268	3342	2.12	7085	576	8.14
80R-6, 64–66	854.34–854.35	11.313	3342	1.91	6383	610	9.56
81R-1, 64–66	856.54–856.55	11.379	3342	1.92	6416	606	9.45
	857.51–857.52	11.408	3342	1.92	6416	2184	34.04
81R-2, 65–67	858.05–858.06	11.424	3342	1.92	6416	714	11.12
81R-3, 66–69	859.56–859.58	11.469	3342	1.85	6182	766	12.38
81R-4, 64–66	861.04–861.05	11.514	3342	1.79	5982	562	9.39
	865.63–865.64	11.651	3342	1.79	5982	137	2.29
82R-1, 64–66	866.14–866.15	11.666	3342	1.91	6383	132	2.07
82R-2, 64–66	867.64–867.65	11.711	3342	1.94	6483	396	6.11
83R-1, 64–66	875.74–875.75	11.953	3342	1.94	6483	375	5.79
83R-2, 64–66	877.24–877.25	11.998	3342	1.94	6483	176	2.72
83R-3, 64–66	878.74–878.75	12.043	3342	1.94	6483	46	0.71
	879.74–879.75	12.073	3342	1.94	6483	812	12.52
83R-4, 64–66	880.24–880.25	12.088	3342	1.92	6416	339	5.28
84R-1, 61–63	885.41–885.42	12.243	3342	1.86	6216	576	9.27
	886.42–886.43	12.273	3342	1.86	6216	934	15.02
84R-2, 64–66	886.94–886.95	12.289	3342	1.89	6316	238	3.77
84R-3, 61–63	888.41–888.42	12.333	3342	1.76	5882	294	5.00
84R-4, 61–63	889.91–889.92	12.378	3342	1.80	6015	482	8.01
	894.54–894.55	12.516	3342	1.80	6015	2269	37.71
85R-1, 64–66	895.04–895.05	12.531	3342	1.85	6182	386	6.24
85R-2, 64–66	896.54–896.55	12.576	3342	1.83	6115	128	2.10
86R-1, 64–66	904.74–904.75	12.821	3342	1.88	6283	488	7.76
86R-2, 64–66	906.24–906.25	12.866	3342	1.90	6349	434	6.84
	907.24–907.25	12.896	3342	1.90	6349	1194	18.81
87R-1, 64–66	914.44–914.45	13.112	3342	1.99	6650	586	8.81
	915.44–915.45	13.141	3342	1.99	6650	487	7.32
87R-2, 64–66	915.94–915.95	13.156	3342	1.94	6483	517	7.98
88R-1, 64–66	924.04–924.05	13.399	3342	1.91	6383	913	14.31
88R-2, 64–66	925.54–925.55	13.444	3342	1.99	6650	482	7.25
	932.44–932.45	13.650	3342	1.99	6650	352	5.29
89R-1, 64–66	933.74–933.75	13.689	3342	2.03	6784	1995	29.41

Table 2A (continued).

Core, section, interval (cm)	Depth (mbfs)	Age (m.y.)	LSR (cm m.y.)	DBD (gcm ⁻³)	BAR (gcm ⁻² m.y. ⁻¹)	>63 µm AR (gcm ⁻² m.y. ⁻¹)	>63 µm (wt%)
89R-2, 74–75	934.71–934.72	13.718	3342	2.03	6784	951	14.01
	935.34–935.35	13.737	3342	1.98	6617	851	12.87
	936.65–936.66	13.776	3342	1.98	6617	3950	59.70
	942.94–942.95	13.964	3342	1.98	6617	2792	42.20
	943.36–943.37	13.977	3342	1.98	6617	2529	38.22
90R-1, 64–66	943.44–943.45	13.979	3342	2.18	7285	1570	21.55
90R-2, 64–66	944.94–944.95	14.024	3342	1.99	6650	3673	55.24
91R-1, 67–69	953.07–953.08	14.268	3342	1.97	6583	381	5.78
	953.20–953.21	14.271	3342	1.97	6583	1934	29.37
91R-2, 67–68	954.57–954.58	14.312	3342	1.98	6617	709	10.72
92R-1, 64–66	962.74–962.75	14.557	3342	1.89	6316	721	11.42
	963.13–963.14	14.569	3342	1.89	6316	2651	41.98
	963.25–963.26	14.572	3342	1.89	6316	1543	24.43
	963.78–963.79	14.588	3342	1.89	6316	128	2.03
92R-2, 64–66	964.24–964.25	14.602	3342	2.13	7118	850	11.94
	964.36–964.37	14.605	3342	2.13	7118	3168	44.51
	964.50–964.51	14.610	3342	2.13	7118	106	1.48
	971.84–971.85	14.829	3342	2.13	7118	485	6.81
93R-1, 64–66	972.34–972.35	14.844	3342	1.98	6617	843	12.74
93R-2, 61–63	973.81–973.82	14.888	3342	2.13	7118	279	3.92
	974.48–974.49	14.908	3342	2.13	7118	960	13.49
94R-1, 64–66	981.94–981.95	15.131	3342	1.99	6650	472	7.09
	983.39–983.40	15.175	3342	1.99	6650	3961	59.56
94R-2, 64–66	983.44–983.45	15.176	3342	2.05	6851	395	5.76
	984.46–984.47	15.207	3342	2.05	6851	1489	21.74
	991.10–991.11	15.406	3342	2.05	6851	212	3.09
95R-1, 62–64	991.32–991.33	15.412	3342	1.89	6316	408	6.46
	1000.54–1000.55	15.688	3342	1.89	6316	201	3.19
96R-1, 65–67	1001.05–1001.06	15.703	3342	2.10	7018	833	11.87
	1001.22–1001.23	15.708	3342	2.10	7018	301	4.29
	1001.61–1001.62	15.720	3342	2.10	7018	301	4.30
	1010.14–1010.15	15.975	3342	2.10	7018	254	3.62
97R-1, 64–66	1010.64–1010.65	15.990	3342	2.10	7018	708	10.09
	1010.94–1010.95	15.999	3342	2.10	7018	2386	34.00
	1019.84–1019.85	16.266	3342	2.10	7018	6117	87.16
	1020.10–1020.11	16.273	3342	2.10	7018	1641	23.39
	1020.27–1020.28	16.278	3342	2.10	7018	1817	25.89
98R-1, 66–68	1020.36–1020.37	16.281	3342	1.89	6316	473	7.49
	1021.67–1021.68	16.320	3342	1.89	6316	1012	16.02
99R-1, 64–66	1029.84–1029.85	16.565	3342	2.18	7285	472	6.48
	1029.99–1030.00	16.569	3342	2.18	7285	2146	29.46
	1030.33–1030.34	16.579	3342	2.18	7285	1460	20.04
	1030.76–1030.77	16.592	3342	2.18	7285	365	5.01
100R-1, 65–67	1039.45–1039.46	16.852	3342	1.89	6316	134	2.12
	1040.44–1040.45	16.882	3342	1.89	6316	3109	49.22
	1048.54–1048.55	17.124	3342	1.89	6316	2782	44.04
101R-1, 64–66	1049.04–1049.05	17.139	3342	2.01	6717	347	5.17
	1049.85–1049.86	17.164	3342	2.01	6717	619	9.21
101R-2, 66–68	1050.56–1050.57	17.185	3342	2.01	6717	583	8.68
	1050.64–1050.65	17.187	3342	2.01	6717	1816	27.03
	1053.13–1053.14	17.262	3342	2.01	6717	936	13.93
102R-1, 56–58	1053.26–1053.27	17.266	3342	2.21	7385	601	8.13
102R-2, 69–71	1054.89–1054.90	17.314	3342	2.21	7385	501	6.79
	1056.20–1056.21	17.354	3342	2.21	7385	4972	67.32
102R-3, 68–70	1056.38–1056.39	17.359	3342	2.05	6851	668	9.75
	1057.23–1057.24	17.384	3342	2.05	6851	1777	25.94
	1057.33–1057.34	17.387	3342	2.05	6851	1748	25.51
	1057.75–1057.76	17.400	3342	2.05	6851	619	9.03
102R-4, 65–67	1057.85–1057.86	17.403	3342	1.99	6650	997	15.00
	1058.20–1058.21	17.413	3342	1.99	6650	1012	15.21
	1058.43–1058.44	17.420	3342	1.99	6650	2076	31.22
103R-1, 64–66	1058.64–1058.65	17.427	3342	1.99	6650	927	13.94
	1059.64–1059.65	17.457	3342	1.99	6650	2189	32.92
103R-2, 64–66	1060.14–1060.15	17.471	3342	1.98	6617	338	5.10
	1061.14–1061.15	17.501	3342	1.98	6617	2770	41.86
103R-3, 64–66	1061.64–1061.65	17.516	3342	2.03	6784	326	4.81
	1062.27–1062.28	17.535	3342	2.03	6784	595	8.77

Notes: Hole 909A: Position: 78°35.064'N, 3°4.374'E; water depth from sea surface = 2519.0 m

Table 2B. Holes 909A and 909C coarse-fraction and subfraction weights.

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	>63 µm (wt%)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	1000 µm (wt%)
151-909A-								
1H-1, 9–11	0.09–0.10	0.000	14.87	44.96	19.94	8.16	5.05	21.89
1H-1, 90–92	0.90–0.91	0.020	8.90	32.08	46.47	10.81	2.51	8.13
1H-2, 9–11	1.59–1.60	0.030	6.67	57.92	30.58	6.61	2.29	2.61
1H-2, 90–92	2.40–2.41	0.050	4.77	66.60	20.93	7.99	4.10	0.37
1H-3, 9–11	3.09–3.10	0.070	13.19	76.28	19.02	3.51	0.70	0.49
1H-3, 90–92	3.90–3.91	0.080	2.69	50.71	33.00	7.97	6.84	1.48
1H-4, 9–11	4.59–4.60	0.100	30.11	54.97	39.57	4.78	0.58	0.09
1H-4, 90–92	5.40–5.41	0.120	32.77	46.39	37.41	8.66	2.05	5.49
1H-5, 9–11	6.09–6.10	0.130	7.51	51.71	26.28	6.67	2.10	13.24
1H-5, 90–92	6.90–6.91	0.150	13.77	40.63	21.49	4.82	2.15	30.91
1H-CC, 9–11	7.21–7.22	0.150	5.01	43.98	25.09	11.00	7.59	12.33
2H-1, 9–11	7.59–7.60	0.160	6.49	57.61	29.87	7.93	2.42	2.17
2H-1, 90–92	8.40–8.41	0.180	2.82	52.26	24.26	6.81	6.11	10.55
2H-2, 9–11	9.09–9.10	0.190	29.65	52.69	31.98	10.05	1.34	3.94
2H-2, 90–92	9.90–9.91	0.210	5.56	33.99	32.01	8.54	0.98	24.47
2H-3, 9–11	10.59–10.60	0.230	20.19	48.54	23.21	10.00	5.60	12.65
2H-3, 90–92	11.40–11.41	0.240	3.43	35.84	21.28	12.07	6.47	24.35
2H-4, 9–11	12.09–12.10	0.260	32.64	42.05	43.21	11.27	2.12	1.36
2H-4, 90–92	12.90–12.91	0.280	24.20	53.33	39.28	5.02	1.36	1.02
2H-5, 9–11	13.59–13.60	0.290	10.23	48.90	24.50	10.73	6.32	9.55
2H-5, 90–92	14.40–14.41	0.310	22.34	51.50	38.68	7.80	1.01	1.02
2H-6, 9–11	15.09–15.10	0.320	3.02	43.49	31.60	16.17	4.83	3.92
2H-6, 90–92	15.90–15.91	0.340	23.76	55.02	30.74	7.21	2.92	4.12
2H-7, 9–11	16.59–16.60	0.350	33.56	46.69	39.40	7.39	0.59	5.93
2H-CC, 10–12	17.24–17.25	0.360	8.27	39.88	25.44	14.02	9.02	11.64
3H-1, 9–10	17.09–17.10	0.370	15.19	49.20	34.82	8.68	3.20	4.10
3H-1, 90–92	17.90–17.91	0.380	6.83	17.86	17.40	12.97	12.04	39.73
3H-2, 9–10	18.59–18.60	0.400	3.49	56.20	28.26	11.43	2.39	1.71
3H-2, 90–92	19.40–19.41	0.410	5.88	57.65	22.30	9.01	3.90	7.14
3H-3, 9–10	20.09–20.10	0.430	6.87	45.80	30.06	13.39	8.92	1.84
3H-3, 90–92	20.90–20.91	0.450	11.65	69.04	27.71	3.19	0.07	0.00
3H-4, 9–10	21.59–21.60	0.460	15.25	42.93	31.98	8.39	3.32	13.38
3H-4, 90–92	22.40–22.41	0.480	0.09	44.83	27.59	27.59	0.00	0.00
3H-5, 9–10	23.09–23.10	0.490	6.80	29.07	38.02	19.22	9.03	4.66
3H-5, 90–92	23.90–23.91	0.510	6.65	36.13	28.15	13.68	6.04	15.99
3H-6, 9–10	24.59–24.60	0.520	28.24	43.52	32.23	11.92	6.89	5.44
3H-6, 90–92	25.40–25.41	0.540	4.60	45.58	36.11	13.21	4.80	0.30
3H-7, 9–10	26.09–26.10	0.560	15.91	31.53	28.30	17.39	11.35	11.43
4H-1, 9–11	26.59–26.60	0.570	14.11	42.15	29.45	13.12	7.17	8.11
3H-CC, 9–10	26.61–26.62	0.570	25.72	51.05	35.73	8.46	2.79	1.97
4H-1, 90–92	27.40–27.41	0.580	8.82	24.44	18.68	10.02	5.86	41.01
4H-2, 9–11	28.09–28.10	0.600	21.04	32.56	24.45	15.84	14.87	12.28
4H-2, 90–92	28.80–28.91	0.620	18.48	24.37	21.97	18.61	13.27	21.78
4H-3, 9–11	29.59–29.60	0.630	13.24	44.79	28.65	12.09	5.46	9.01
4H-3, 90–92	30.40–30.41	0.650	10.31	54.84	10.30	4.59	1.58	28.69
4H-4, 9–11	31.09–31.10	0.660	4.58	66.01	22.42	7.30	1.50	2.76
4H-4, 90–92	31.90–31.91	0.680	19.64	29.55	21.22	14.81	11.96	22.45
4H-5, 9–11	32.59–32.60	0.690	7.40	48.02	28.31	14.94	4.78	3.95
4H-5, 90–92	33.40–33.41	0.710	19.44	35.12	26.02	16.96	9.52	12.38
4H-6, 9–11	34.09–34.10	0.730	4.02	57.84	28.33	10.58	2.64	0.61
4H-6, 90–92	34.90–34.91	0.740	9.99	33.21	21.71	9.51	4.79	30.78
4H-7, 9–11	35.59–35.60	0.760	7.64	40.92	30.01	15.92	6.25	6.90
4H-CC, 9–11	36.39–36.40	0.770	6.00	58.43	22.63	12.30	5.97	0.67
5H-1, 9–11	36.09–36.10	0.780	7.54	48.41	27.47	13.92	6.54	3.65
5H-1, 90–92	36.39–36.91	0.790	9.58	28.87	64.60	5.94	0.59	0.00
5H-2, 9–11	37.59–37.60	0.810	8.78	46.73	30.63	14.80	4.89	2.96
5H-2, 90–92	38.40–38.41	0.830	4.70	48.17	32.73	15.36	3.74	0.00
5H-3, 9–11	39.09–39.10	0.850	26.88	32.18	15.74	3.76	1.92	46.40
5H-3, 90–92	39.90–39.91	0.870	8.86	72.39	17.76	8.29	1.62	0.00
5H-4, 9–11	40.59–40.60	0.890	8.16	47.21	27.65	12.05	5.15	7.94
5H-4, 90–92	41.40–41.41	0.910	25.07	31.54	22.80	9.89	7.49	28.27
5H-5, 9–11	42.09–42.10	0.930	3.91	41.65	30.88	20.17	6.67	0.63
5H-5, 90–92	42.90–42.91	0.950	56.96	22.60	18.36	3.55	2.93	52.56
5H-6, 9–11	43.59–43.60	0.970	0.22	88.41	10.14	1.45	0.00	0.00
5H-6, 90–92	44.40–44.41	0.990	11.15	38.87	15.65	8.28	8.23	28.97
5H-7, 9–11	45.09–45.10	1.000	13.79	59.19	28.96	5.76	2.74	3.34
5H-CC, 9–11	45.80–45.81	1.010	4.29	37.65	41.69	13.67	4.56	2.43
6H-1, 9–11	45.59–45.60	1.020	12.83	63.57	26.55	6.58	1.92	1.38
6H-1, 90–93	46.40–46.42	1.030	13.41	52.82	22.44	7.40	3.07	14.27
6H-2, 9–11	47.09–47.10	1.050	6.29	44.23	32.22	16.22	4.65	2.68
6H-3, 9–11	47.86–47.87	1.060	10.25	55.29	27.10	10.24	3.97	3.39
6H-4, 9–11	48.69–48.70	1.070	9.89	49.71	16.49	5.19	4.57	24.03
6H-4, 90–93	49.50–49.52	1.080	35.67	14.13	7.30	4.02	4.71	69.83
6H-5, 9–11	50.11–50.12	1.080	11.38	27.80	9.77	2.63	2.16	57.64
6H-5, 90–93	50.92–50.94	1.090	7.30	54.98	23.61	9.27	4.56	7.59
6H-6, 9–11	51.53–51.54	1.100	15.79	40.46	22.40	14.20	11.88	11.05
6H-6, 90–93	52.34–52.36	1.110	36.10	52.87	39.19	5.34	0.60	2.00
6H-7, 9–11	52.95–52.96	1.120	19.19	29.64	19.90	11.31	7.02	32.13
6H-CC, 9–11	54.37–54.38	1.130	21.98	21.91	16.39	10.40	10.00	41.31
6H-7, 90–93	53.76–53.78	1.130	22.63	51.72	35.75	8.62	2.03	1.88
7H-1, 9–11	55.59–55.60	1.150	5.05	49.52	23.63	13.62	9.41	3.82
7H-1, 90–93	56.40–56.42	1.160	9.78	43.64	25.86	9.24	5.26	15.99
7H-2, 9–11	57.00–57.01	1.160	16.01	49.65	29.74	11.17	6.13	3.32
7H-2, 90–93	57.81–57.83	1.170	14.51	50.90	32.26	10.86	3.42	2.56
7H-3, 9–11	58.41–58.42	1.180	13.36	37.88	27.42	13.50	7.29	13.91
7H-3, 90–93	59.22–59.24	1.190	14.46	28.93	20.62	21.27	19.77	9.41
7H-4, 90–93	60.63–60.65	1.200	6.95	42.02	12.82	8.02	10.67	26.48
7H-4, 9–11	59.82–59.83	1.200	7.24	46.88	18.35	7.84	5.67	21.25

Table 2B (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	>63 µm (wt%)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	1000 µm (wt%)
7H-5, 9–11	61.23–61.24	1.210	3.20	39.56	12.60	11.74	7.59	28.50
7H-5, 90–93	62.04–62.06	1.220	3.16	54.20	14.72	5.09	3.91	22.08
7H-6, 9–11	62.64–62.65	1.230	6.11	74.84	18.88	4.45	1.34	0.49
7H-6, 90–93	63.45–63.47	1.240	0.21	50.53	30.53	18.95	0.00	0.00
7H-7, 90–93	64.95–64.97	1.250	1.67	10.19	3.83	3.77	3.60	78.62
7H-7, 9–11	64.14–64.15	1.250	0.19	44.71	30.59	15.29	9.41	0.00
8H-1, 6–8	65.06–65.07	1.260	44.59	9.21	67.29	2.82	1.25	19.42
7H-CC, 9–11	65.64–65.65	1.260	8.15	45.06	27.46	10.15	7.13	10.19
8H-1, 90–92	65.90–65.91	1.270	7.26	47.78	22.90	12.62	10.49	6.21
8H-2, 9–11	66.49–66.50	1.270	7.01	65.97	22.10	6.85	1.81	3.28
8H-2, 90–92	67.30–67.31	1.280	37.75	39.80	40.46	6.24	5.14	8.35
8H-3, 9–11	67.89–67.90	1.290	15.65	46.75	24.66	10.08	7.00	11.50
8H-4, 9–11	69.30–69.31	1.300	6.13	21.81	20.00	17.96	13.78	26.44
8H-3, 90–92	68.70–68.71	1.300	11.52	44.97	30.64	12.82	6.19	5.39
8H-4, 90–92	70.11–70.12	1.310	5.73	34.63	13.58	6.43	7.80	37.56
8H-5, 9–11	70.71–70.72	1.320	4.70	65.60	23.66	4.95	2.03	3.75
8H-6, 9–11	71.73–71.74	1.330	8.38	38.19	16.49	7.16	4.76	33.40
8H-5, 90–92	71.52–71.53	1.330	7.73	58.65	28.61	9.77	2.97	0.00
8H-7, 9–11	72.39–72.40	1.340	5.19	37.09	10.89	6.88	7.73	37.42
8H-7, 90–92	73.20–73.21	1.350	6.34	48.25	25.55	8.28	4.69	13.23
8H-CC, 9–11	73.90–73.91	1.360	6.13	45.86	20.48	5.91	3.34	24.42
9H-1, 9–11	74.09–74.10	1.360	4.60	48.16	22.82	8.56	3.44	17.02
9H-1, 90–92	74.90–74.91	1.370	7.73	43.67	21.21	7.65	5.49	21.98
9H-2, 9–11	75.49–75.50	1.380	19.33	17.70	8.26	3.89	3.16	67.00
9H-2, 90–92	76.30–76.31	1.390	4.29	31.61	16.98	9.95	8.43	33.02
9H-3, 9–11	76.89–76.90	1.390	5.53	64.61	18.93	5.55	3.99	6.92
9H-3, 90–92	77.70–77.71	1.400	36.05	26.34	23.26	11.00	9.07	30.34
9H-4, 9–11	78.29–78.30	1.410	5.44	56.78	27.89	9.43	4.82	1.08
9H-4, 90–92	79.10–79.11	1.420	11.46	52.02	32.65	12.16	3.18	0.00
9H-5, 9–11	79.69–79.70	1.420	9.74	53.11	28.46	7.84	2.33	8.26
9H-5, 90–92	80.50–80.51	1.430	7.62	64.75	23.36	5.80	2.37	3.72
9H-6, 9–11	81.09–81.10	1.440	10.57	65.35	22.73	6.74	3.35	1.84
9H-6, 90–92	81.90–81.91	1.450	3.94	54.56	21.73	8.86	7.60	7.25
9H-CC, 9–11	82.72–82.73	1.460	16.00	36.60	20.81	8.97	7.81	25.81
9H-7, 9–11	82.49–82.50	1.460	13.52	41.21	21.79	9.55	8.60	18.85
10H-1, 97–99	83.57–83.58	1.470	9.96	56.53	27.19	8.06	4.01	4.21
10H-CC, 9–11	84.19–84.20	1.480	15.97	46.45	29.16	9.09	3.53	11.77
11H-1, 5–7	84.45–84.46	1.480	7.64	57.46	20.62	5.82	4.49	11.62
11H-1, 90–92	85.30–85.31	1.490	10.15	51.32	15.93	4.07	2.56	26.13
11H-2, 89–91	86.69–86.70	1.500	32.13	49.66	43.45	4.37	0.70	1.81
11H-2, 9–11	85.89–85.90	1.500	4.61	61.48	21.34	7.57	4.41	5.20
11H-3, 9–11	87.29–87.30	1.510	16.85	54.53	17.60	5.99	2.72	19.16
11H-3, 89–91	88.09–88.10	1.520	10.55	28.10	18.16	6.94	6.55	40.25
11H-4, 9–11	88.69–88.70	1.530	1.47	8.14	13.12	24.07	27.24	27.42
11H-5, 9–11	90.09–90.10	1.540	11.41	22.26	13.50	6.98	7.76	49.51
11H-4, 89–91	89.49–89.50	1.540	12.38	65.35	27.58	5.24	1.45	0.38
11H-5, 89–91	90.89–90.90	1.550	16.40	53.73	30.13	7.90	2.66	5.59
11H-6, 9–11	91.49–91.50	1.560	22.70	50.06	30.21	8.43	5.53	5.77
151-909C-								
4R-1, 64–66	114.54–114.55	1.830	4.28	44.89	19.44	8.29	9.20	18.17
6R-2, 64–66	135.34–135.35	2.070	11.16	51.89	22.08	6.95	4.06	15.02
7R-4, 65–67	148.05–148.06	2.210	12.52	50.66	41.85	6.18	1.17	0.13
8R-2, 65–67	154.75–154.76	2.290	6.67	50.85	14.14	2.81	1.40	30.81
9R-1, 64–66	162.94–162.95	2.380	6.80	57.88	31.45	7.87	2.47	0.32
10R-2, 64–66	174.04–174.05	2.510	33.27	30.92	47.82	17.94	1.96	1.36
10R-5, 64–66	178.54–178.55	2.560	6.10	76.11	17.78	3.61	1.71	0.79
11R-5, 64–66	188.24–188.25	2.690	29.20	38.95	48.67	7.56	2.06	2.76
12R-4, 64–66	196.34–196.35	2.810	7.05	68.98	24.55	3.62	0.48	2.38
13R-4, 64–66	205.94–205.95	2.950	8.02	40.24	20.92	11.88	18.26	8.70
14R-3, 64–66	214.14–214.15	3.070	5.75	70.01	25.84	2.66	0.92	0.57
15R-2, 64–66	222.24–222.25	3.190	3.31	56.77	23.72	5.10	5.08	9.34
16R-3, 64–66	233.24–233.25	3.350	15.94	64.34	31.36	2.10	1.58	0.62
17R-3, 64–67	242.84–242.86	3.490	4.87	68.74	20.03	3.76	6.24	1.23
22R-1, 65–67	288.15–288.16	4.030	3.44	58.03	22.89	9.23	5.59	4.26
22R-5, 65–67	294.15–294.16	4.240	17.07	69.31	26.55	1.47	0.35	2.32
23R-1, 65–67	297.75–297.76	4.340	5.73	81.76	10.20	5.87	2.16	0.00
24R-1, 68–70	307.48–307.49	4.520	8.79	70.97	26.08	2.58	0.38	0.00
25R-1, 64–66	317.04–317.05	4.670	5.25	82.29	7.86	2.64	2.31	4.90
26R-1, 64–66	326.64–326.65	4.740	2.19	75.99	17.37	4.20	0.96	1.48
26R-6, 66–68	334.16–334.17	4.790	3.61	48.47	22.36	13.27	10.39	5.50
28R-1, 64–66	345.94–345.95	4.950	1.56	61.40	17.06	10.82	7.55	3.17
29R-2, 56–58	356.96–356.97	5.280	0.08	30.43	13.04	6.09	50.43	0.00
31R-1, 64–66	374.74–374.75	5.750	2.75	85.93	6.56	5.28	2.23	0.00
31R-4, 64–66	379.24–379.25	5.780	2.46	48.11	4.74	3.27	6.81	37.07
32R-1, 64–66	384.24–384.25	5.820	6.31	57.66	11.54	10.63	12.02	8.14
32R-3, 64–66	387.24–387.25	5.840	2.98	35.39	9.02	5.93	9.15	40.52
33R-1, 64–66	393.74–393.75	5.880	4.67	59.84	5.25	6.22	10.86	17.83
33R-5, 64–66	399.74–399.75	5.930	3.38	83.12	9.21	3.44	3.26	0.98
34R-2, 64–66	404.94–404.95	5.960	2.30	82.01	8.70	7.64	1.66	0.00
34R-4, 64–66	407.94–407.95	5.980	3.38	66.22	11.69	13.80	8.29	0.00
35R-4, 64–67	417.54–417.56	6.050	5.38	89.18	8.62	1.95	0.25	0.00
36R-2, 64–66	424.24–424.25	6.100	2.98	93.12	4.93	1.39	0.56	0.00
36R-6, 64–66	430.24–430.25	6.140	2.70	48.14	15.21	19.89	13.26	3.50
37R-4, 54–56	436.74–436.75	6.180	5.21	82.25	6.12	6.20	4.20	1.23
38R-2, 68–70	443.48–443.49	6.230	0.31	94.54	3.78	1.68	0.00	0.00
40R-2, 63–65	462.73–462.74	6.360	2.82	33.82	7.05	3.52	4.58	51.03
41R-2, 64–66	472.44–472.45	6.430	1.36	82.99	14.12	2.29	0.59	0.00
41R-3, 64–66	473.94–473.95	6.440	2.74	61.75	6.86	8.33	20.90	2.15

Table 2B (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	>63 µm (wt%)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	1000 µm (wt%)
42R-2, 64–66	482.14–482.15	6.500	2.10	86.21	6.49	1.34	2.06	3.90
43R-1, 65–67	490.15–490.16	6.550	0.74	81.95	14.13	2.49	1.43	0.00
43R-5, 64–66	496.14–496.15	6.590	2.43	25.19	4.62	2.98	7.07	60.14
43R-7, 63–65	499.13–499.14	6.610	1.88	25.47	7.80	6.75	9.63	50.34
44R-5, 63–65	505.63–505.64	6.660	0.61	80.29	9.41	10.29	0.00	0.00
45R-1, 64–66	509.24–509.25	6.680	0.76	58.31	14.67	25.87	1.15	0.00
45R-5, 64–66	515.24–515.25	6.730	0.21	38.03	3.38	3.66	27.04	27.89
46R-2, 64–66	520.44–520.45	6.760	0.09	70.15	16.42	13.43	0.00	0.00
47R-4, 66–68	533.16–533.17	6.850	3.42	61.66	5.01	4.04	14.19	15.09
48R-3, 63–66	541.33–541.35	6.910	3.11	14.27	5.77	3.97	5.47	70.52
48R-4, 63–66	542.83–542.85	6.920	1.57	43.87	7.08	3.11	8.95	36.98
48R-5, 63–66	544.33–544.35	6.930	2.33	60.95	1.75	0.30	0.40	36.60
48R-6, 63–66	545.83–545.85	6.940	1.47	82.69	12.94	2.24	2.13	0.00
49R-1, 64–66	547.94–547.95	6.950	3.78	75.13	17.47	3.17	1.42	2.80
49R-2, 64–67	548.74–548.76	6.960	6.95	58.65	21.95	6.56	3.92	8.91
49R-3, 63–66	550.23–550.25	6.970	3.76	73.73	12.15	4.21	5.99	3.92
49R-4, 65–68	551.75–551.77	6.980	0.90	75.18	3.00	2.05	9.31	10.46
49R-5, 63–66	553.23–553.25	6.990	0.20	28.32	23.47	25.26	17.35	5.61
49R-6, 63–66	554.73–554.75	7.000	0.15	77.56	12.82	4.49	5.13	0.00
49R-7, 64–67	556.18–556.20	7.010	0.41	92.69	3.99	1.60	1.73	0.00
50R-1, 64–66	557.54–557.55	7.020	0.05	48.98	34.69	16.33	0.00	0.00
50R-2, 54–57	558.94–558.96	7.030	9.67	75.48	22.50	1.49	0.24	0.29
50R-3, 64–66	560.54–560.55	7.040	0.19	65.82	15.82	9.69	8.67	0.00
50R-4, 64–66	562.04–562.05	7.050	0.04	38.24	35.29	26.47	0.00	0.00
51R-1, 65–67	567.25–567.26	7.090	0.58	84.99	11.29	2.12	1.06	0.53
51R-2, 64–66	568.74–568.75	7.100	0.76	77.50	15.97	4.31	2.22	0.00
51R-3, 64–66	570.24–570.25	7.110	2.43	89.27	5.49	3.74	1.50	0.00
51R-4, 64–66	571.74–571.75	7.120	4.78	65.61	3.19	1.61	4.15	25.43
52R-1, 64–66	576.84–576.85	7.150	2.02	67.99	6.59	2.76	5.81	16.86
52R-2, 64–66	578.34–578.35	7.160	2.44	72.87	4.40	1.78	1.93	19.01
52R-3, 62–64	579.82–579.83	7.170	3.32	66.97	6.26	2.29	6.55	17.93
52R-4, 65–67	581.35–581.36	7.190	0.36	72.22	14.44	10.83	2.50	0.00
53R-1, 64–66	586.44–586.45	7.220	0.50	85.55	11.80	2.65	0.00	0.00
53R-2, 64–66	587.94–587.95	7.230	2.92	37.80	6.50	3.35	4.22	48.12
53R-3, 64–66	589.44–589.45	7.240	1.77	72.49	1.90	0.48	23.41	1.72
53R-4, 64–66	590.94–590.95	7.260	1.20	82.26	15.73	2.02	0.00	0.00
53R-5, 64–66	592.44–592.45	7.280	5.71	16.05	17.27	56.35	10.33	0.00
54R-1, 62–63	596.12–596.13	7.340	2.38	84.26	4.70	2.47	3.11	5.46
54R-2, 66–68	597.66–597.67	7.360	1.20	56.45	14.93	10.42	7.15	11.04
54R-3, 63–65	599.13–599.14	7.380	4.77	72.31	13.15	4.55	1.92	8.08
55R-1, 64–66	605.74–605.75	7.480	0.63	56.15	6.45	3.79	5.53	28.07
55R-2, 64–66	607.24–607.25	7.500	3.56	9.84	3.67	6.33	11.50	68.66
55R-3, 63–65	608.73–608.74	7.530	0.50	87.70	8.95	3.36	0.00	0.00
55R-4, 64–66	610.24–610.25	7.550	6.99	84.80	12.46	2.31	0.42	0.00
55R-5, 64–66	611.74–611.75	7.570	1.84	45.55	9.28	13.52	10.85	20.81
55R-6, 64–66	613.24–613.25	7.590	7.00	73.69	11.02	10.01	4.94	0.33
56R-1, 64–66	615.44–615.45	7.630	3.05	74.86	4.14	2.77	2.50	15.74
57R-1, 64–66	625.04–625.05	7.770	1.70	53.16	4.90	2.08	5.11	34.75
57R-2, 64–66	626.54–626.55	7.790	3.13	78.46	10.86	6.90	3.11	0.68
57R-3, 64–66	628.04–628.05	7.820	5.01	50.94	4.29	2.60	9.50	32.68
57R-4, 64–66	629.54–629.55	7.840	2.85	81.31	4.10	2.68	8.96	2.95
57R-5, 65–67	631.05–631.06	7.860	3.95	74.38	4.09	1.65	3.64	16.24
58R-1, 64–66	634.74–634.75	7.940	0.30	68.88	16.84	10.71	3.57	0.00
59R-1, 64–66	644.34–644.35	8.190	0.44	39.57	15.88	11.61	8.29	24.64
59R-2, 64–66	645.84–645.85	8.230	2.10	73.30	9.36	4.01	3.61	9.71
59R-3, 64–66	647.34–647.35	8.270	5.36	70.32	12.80	10.02	5.54	1.32
59R-4, 64–66	648.84–648.85	8.310	1.88	38.29	9.57	5.18	13.86	33.10
59R-5, 64–66	650.34–650.35	8.350	0.60	57.83	10.26	6.27	1.71	23.93
59R-6, 64–66	651.84–651.85	8.390	2.85	73.84	9.77	7.54	4.89	3.96
60R-1, 64–66	654.04–654.05	8.450	1.58	58.56	15.19	20.39	5.86	0.00
60R-2, 64–66	655.54–655.55	8.490	1.86	88.91	7.51	2.32	1.06	0.20
60R-3, 64–66	657.04–657.05	8.530	0.63	61.14	16.10	13.30	8.75	0.70
60R-4, 64–66	658.54–658.55	8.540	5.14	11.04	5.36	6.08	10.83	66.69
60R-5, 64–66	660.04–660.05	8.560	1.07	44.47	14.42	10.82	11.42	18.87
60R-6, 64–66	661.54–661.55	8.570	4.66	84.41	9.76	3.24	1.55	1.03
61R-1, 63–65	663.63–663.64	8.590	2.82	66.38	9.77	7.19	12.40	4.26
61R-2, 62–65	665.12–665.14	8.600	4.32	31.44	11.60	6.94	2.48	47.55
61R-3, 64–66	666.64–666.65	8.610	4.71	14.55	7.37	4.19	2.35	71.54
61R-4, 64–66	668.14–668.15	8.630	5.64	46.14	8.77	7.19	15.88	22.02
61R-5, 64–66	669.64–669.65	8.640	2.94	71.95	19.17	5.90	2.99	0.00
62R-1, 63–66	673.33–673.35	8.670	4.71	69.62	12.14	9.21	7.91	1.12
62R-2, 63–66	674.83–674.85	8.680	5.56	65.84	13.04	9.83	6.88	4.41
62R-3, 63–67	676.33–676.35	8.700	0.74	77.06	10.87	4.63	7.44	0.00
62R-4, 63–66	677.83–677.85	8.710	2.49	88.58	6.37	3.43	1.62	0.00
62R-5, 63–66	679.33–679.35	8.720	2.74	56.10	4.84	2.79	1.36	34.91
62R-6, 64–67	680.84–680.86	8.740	2.78	21.43	9.63	11.01	16.00	41.93
62R-7, 64–67	682.34–682.36	8.750	0.52	48.22	8.22	3.41	3.72	36.43
63R-1, 63–65	682.93–682.94	8.760	1.23	88.75	5.85	3.82	1.57	0.00
63R-2, 63–65	684.43–684.44	8.770	3.59	92.53	6.03	1.22	0.22	0.00
63R-3, 63–65	685.93–685.94	8.780	0.89	79.89	10.45	8.02	1.64	0.00
64R-1, 63–65	692.63–692.64	8.840	1.96	51.03	6.50	3.36	1.84	37.27
64R-2, 63–65	694.13–694.14	8.850	4.51	17.66	4.98	6.30	17.27	53.80
64R-3, 63–65	695.63–695.64	8.870	0.58	60.61	13.45	7.63	5.41	12.90
64R-4, 63–65	697.13–697.14	8.880	1.50	56.82	20.66	11.31	4.91	6.30
64R-5, 65–68	698.65–698.67	8.900	1.63	72.32	15.52	9.74	2.42	0.00
65R-1, 65–67	702.25–702.26	8.940	5.21	59.79	5.68	6.99	6.39	21.15
65R-2, 64–66	703.74–703.75	8.960	1.25	44.23	18.43	9.09	13.39	14.86
65R-3, 65–67	705.25–705.26	8.970	6.77	63.34	12.64	10.95	9.75	3.33
65R-4, 64–66	706.74–706.75	8.990	1.39	81.28	11.20	4.93	2.58	0.00

Table 2B (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	>63 µm (wt%)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	1000 µm (wt%)
65R-5, 64–66	708.24–708.25	9.000	3.58	86.95	7.21	4.70	1.14	0.00
65R-6, 62–64	709.72–709.73	9.020	1.67	81.96	11.79	3.95	2.30	0.00
66R-1, 64–66	711.74–711.75	9.040	10.95	6.51	3.56	4.37	6.06	79.50
66R-2, 64–66	713.24–713.25	9.060	3.93	91.80	4.80	2.10	1.30	0.00
67R-1, 67–69	721.47–721.48	9.150	1.36	77.63	11.77	6.56	4.04	0.00
67R-2, 67–69	722.97–722.98	9.160	2.50	22.00	8.54	10.11	16.51	42.84
67R-3, 67–69	724.47–724.48	9.180	4.62	74.06	11.20	9.44	4.12	1.17
67R-4, 63–65	725.93–725.94	9.200	1.08	55.49	12.64	8.43	13.98	9.45
67R-5, 63–65	727.43–727.44	9.210	1.38	31.66	4.79	3.41	3.27	56.86
67R-6, 63–65	728.93–728.94	9.230	16.20	87.76	5.78	3.18	3.12	0.17
68R-1, 64–66	731.04–731.05	9.250	1.21	46.90	15.58	14.36	13.62	9.54
67R-7, 63–65	730.43–730.44	9.250	1.75	60.14	16.47	15.09	7.39	0.91
68R-2, 64–66	732.54–732.55	9.270	6.29	62.43	9.72	10.19	9.35	8.30
68R-3, 64–66	734.04–734.05	9.280	6.04	86.15	7.79	3.87	2.02	0.17
68R-4, 64–66	735.54–735.55	9.300	3.45	71.89	14.03	8.97	5.11	0.00
69R-1, 64–66	740.64–740.65	9.360	3.97	90.78	6.68	1.99	0.55	0.00
69R-2, 64–66	742.14–742.15	9.370	1.39	67.00	20.25	10.80	1.94	0.00
69R-3, 64–66	743.64–743.65	9.390	6.22	77.66	11.44	8.94	1.97	0.00
69R-4, 64–66	745.14–745.15	9.400	4.71	69.50	10.99	11.07	8.44	0.00
69R-5, 64–66	746.64–746.65	9.420	6.71	82.90	9.88	5.82	0.70	0.70
69R-6, 64–66	748.14–748.15	9.440	8.00	88.25	6.81	2.98	1.83	0.13
70R-1, 65–67	750.25–750.26	9.460	7.17	84.01	9.04	4.28	2.54	0.13
70R-2, 64–66	751.74–751.75	9.480	28.74	46.46	24.99	17.53	9.51	1.51
70R-3, 64–66	753.24–753.25	9.490	11.19	52.68	15.98	9.62	5.63	16.09
70R-4, 64–67	754.74–754.76	9.510	9.50	81.05	5.35	5.19	5.96	2.44
70R-5, 62–64	756.22–756.23	9.530	9.93	60.38	19.50	10.14	3.46	6.52
70R-6, 65–67	757.75–757.76	9.540	5.69	64.26	9.23	9.97	16.53	0.00
71R-1, 64–66	759.94–759.95	9.570	6.52	68.31	11.14	4.73	4.16	11.66
71R-2, 64–66	761.44–761.45	9.580	7.59	89.71	4.79	1.45	0.92	3.13
71R-3, 64–66	762.94–762.95	9.600	1.55	69.86	11.96	11.24	5.08	1.85
71R-5, 64–66	765.94–765.95	9.650	11.12	86.17	6.43	5.99	1.41	0.00
71R-6, 64–66	767.44–767.45	9.670	6.42	80.44	11.47	5.20	2.89	0.00
72R-1, 64–66	769.64–769.65	9.710	9.59	86.12	8.02	4.10	1.76	0.00
72R-2, 64–66	771.14–771.15	9.730	8.84	64.71	9.81	7.18	6.26	12.04
72R-3, 62–64	772.62–772.63	9.760	10.10	64.34	18.57	10.63	4.49	1.97
72R-4, 64–66	774.14–774.15	9.780	8.66	87.24	9.06	2.27	1.43	0.00
72R-5, 64–66	775.64–775.65	9.810	8.10	78.74	7.76	4.31	4.80	4.40
72R-6, 64–66	777.14–777.15	9.830	7.78	71.64	9.58	7.85	7.91	3.02
73R-1, 65–67	779.35–779.36	9.870	2.57	23.72	11.83	11.20	8.16	45.09
73R-2, 64–66	780.84–780.85	9.890	8.60	91.79	4.87	1.42	1.37	0.55
73R-3, 64–66	782.34–782.35	9.920	11.73	92.60	5.26	1.57	0.56	0.00
73R-4, 64–66	783.84–783.85	9.940	12.72	92.83	5.36	1.60	0.21	0.00
73R-5, 64–66	785.34–785.35	9.970	6.67	79.16	7.88	6.87	6.09	0.00
73R-6, 65–67	786.85–786.86	9.990	2.06	27.00	5.75	5.24	9.40	52.62
74R-1, 64–66	788.94–788.95	10.030	8.48	85.10	4.64	3.67	3.42	3.17
74R-2, 64–66	790.44–790.45	10.050	6.81	88.07	5.35	3.09	3.50	0.00
74R-3, 64–66	791.94–791.95	10.070	4.14	35.77	9.17	12.26	22.36	20.44
74R-4, 64–66	793.44–793.45	10.100	1.02	53.11	12.15	21.28	13.47	0.00
74R-5, 64–66	794.94–794.95	10.120	8.73	90.57	5.62	2.43	1.17	0.20
75R-1, 64–66	798.64–798.65	10.180	1.93	35.37	14.71	11.64	13.22	25.06
75R-2, 64–66	800.14–800.15	10.210	5.85	93.05	5.37	1.35	0.24	0.00
75R-3, 65–67	801.65–801.66	10.230	3.40	50.83	25.85	12.30	2.45	8.58
75R-4, 65–67	803.15–803.16	10.260	1.51	31.63	11.84	7.59	12.38	36.56
75R-5, 65–67	804.65–804.66	10.280	8.78	88.20	4.18	3.05	4.30	0.27
75R-6, 64–66	806.14–806.15	10.310	3.12	76.11	5.90	4.63	4.35	9.01
75R-7, 64–66	807.64–807.65	10.330	2.55	91.21	5.34	2.23	0.73	0.50
76R-1, 64–66	808.24–808.25	10.340	1.70	58.79	10.19	9.38	17.88	3.76
76R-2, 64–66	809.74–809.75	10.360	5.79	38.62	12.45	14.54	17.56	16.83
76R-3, 64–66	811.24–811.25	10.390	6.87	71.15	12.83	9.70	4.93	1.40
76R-4, 64–66	812.74–812.75	10.410	1.92	60.30	13.68	15.57	10.45	0.00
76R-5, 64–66	814.24–814.25	10.440	3.46	89.25	6.18	2.98	1.41	0.17
76R-6, 64–66	815.74–815.75	10.460	2.69	57.36	5.30	7.38	20.36	9.61
77R-1, 64–66	817.94–817.95	10.500	2.45	40.68	17.66	9.84	17.38	14.45
77R-2, 64–66	819.44–819.45	10.520	5.50	76.61	6.13	5.41	6.01	5.84
77R-3, 64–66	820.94–820.95	10.550	6.58	77.42	7.36	3.82	6.65	4.75
77R-4, 64–66	822.44–822.45	10.570	5.44	70.27	6.25	3.81	5.32	14.35
78R-1, 65–67	827.65–827.66	10.660	6.91	72.85	5.61	5.56	6.58	9.40
78R-2, 67–69	829.17–829.18	10.680	7.30	79.27	3.32	3.18	6.53	7.70
78R-3, 62–64	830.62–830.63	10.710	7.44	80.23	4.80	6.02	4.68	4.27
80R-1, 63–65	846.83–846.84	11.080	8.44	91.67	4.36	1.67	1.91	0.40
80R-2, 63–65	848.33–848.34	11.130	2.51	34.64	5.90	8.07	23.79	27.61
80R-3, 63–65	849.83–849.84	11.170	0.87	76.20	12.56	4.79	4.22	2.23
80R-4, 64–66	851.34–851.35	11.220	1.13	67.31	10.25	4.53	5.36	12.54
80R-5, 64–66	852.84–852.85	11.260	8.14	92.23	5.26	1.59	0.92	0.00
80R-6, 64–66	854.34–854.35	11.310	9.56	83.43	8.07	4.19	4.31	0.00
81R-1, 64–66	856.54–856.55	11.370	9.45	75.41	9.76	6.41	7.55	0.87
81R-2, 65–67	858.05–858.06	11.420	11.12	74.31	9.29	11.27	5.14	0.00
81R-3, 66–69	859.56–859.58	11.460	12.38	82.13	7.87	3.43	3.50	3.07
81R-4, 64–66	861.04–861.05	11.510	9.39	88.20	8.07	3.24	0.50	0.00
82R-1, 64–66	866.14–866.15	11.660	2.07	28.11	6.18	5.79	7.66	52.26
82R-2, 64–66	867.64–867.65	11.710	6.11	88.57	6.57	2.26	0.92	1.67
83R-1, 64–66	875.74–875.75	11.950	5.79	81.77	10.91	4.90	1.94	0.48
83R-2, 64–66	877.24–877.25	11.990	2.72	83.30	10.24	3.96	2.50	0.00
83R-3, 64–66	878.74–878.75	12.040	0.71	73.28	12.36	5.48	5.48	3.39
83R-4, 64–66	880.24–880.25	12.080	5.28	83.72	7.68	3.28	3.97	1.35
84R-1, 61–63	885.41–885.42	12.240	9.27	82.47	11.47	3.88	0.83	1.36
84R-2, 64–66	886.94–886.95	12.280	3.77	70.57	9.01	7.35	4.70	8.36
84R-3, 61–63	888.41–888.42	12.330	5.00	72.72	8.98	7.02	5.05	6.22
84R-4, 61–63	889.91–889.92	12.370	8.01	76.39	10.21	6.03	4.32	3.05

Table 2B (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	>63 µm (wt%)	63–125 µm (wt%)	125–250 µm (wt%)	250–500 µm (wt%)	500–1000 µm (wt%)	1000 µm (wt%)
85R-1, 64–66	895.04–895.05	12.530	6.24	71.64	8.74	7.96	6.07	5.59
85R-2, 64–66	896.54–896.55	12.570	2.10	28.90	12.15	12.25	6.51	40.19
86R-1, 64–66	904.74–904.75	12.820	7.76	70.69	8.09	6.87	1.51	12.83
86R-2, 64–66	906.24–906.25	12.860	6.84	66.26	7.07	8.03	7.45	11.19
87R-1, 64–66	914.44–914.45	13.110	8.81	60.44	6.37	3.40	3.28	26.51
87R-2, 64–66	915.94–915.95	13.150	7.98	58.59	10.15	9.39	8.58	13.30
88R-1, 64–66	924.04–924.05	13.390	14.31	50.50	26.80	12.80	5.14	4.77
88R-2, 64–66	925.54–925.55	13.440	7.25	58.98	15.43	12.45	5.58	7.56
89R-1, 64–66	933.74–933.75	13.680	29.41	88.68	9.75	0.98	0.33	0.26
89R-2, 74–75	935.34–935.35	13.730	12.87	87.51	6.03	2.18	1.56	2.72
90R-1, 64–66	943.44–943.45	13.970	21.55	92.84	6.37	0.58	0.10	0.10
90R-2, 64–66	944.94–944.95	14.020	55.24	39.64	53.92	6.02	0.41	0.01
91R-1, 67–69	953.07–953.08	14.260	5.78	59.82	11.18	7.01	9.17	12.82
91R-2, 67–68	954.57–954.58	14.310	10.72	76.66	12.36	4.88	4.40	1.70
92R-1, 64–66	962.74–962.75	14.550	11.43	57.51	24.74	13.87	2.67	1.20
92R-2, 64–66	964.24–964.25	14.600	11.94	58.46	15.44	11.53	10.46	4.12
93R-1, 64–66	972.34–972.35	14.840	12.74	41.96	20.93	15.61	8.07	13.44
93R-2, 61–63	973.81–973.82	14.880	3.92	84.42	7.08	3.16	1.10	4.24
94R-1, 64–66	981.94–981.95	15.130	7.09	74.94	13.83	7.10	3.77	0.35
94R-2, 64–66	983.44–983.45	15.170	5.76	85.10	7.66	2.07	5.17	0.00
95R-1, 62–64	991.32–991.33	15.410	6.46	69.04	10.84	8.18	10.30	1.65
96R-1, 65–67	1001.05–1001.06	15.700	11.87	70.90	17.40	8.34	2.35	1.02
97R-1, 64–66	1010.64–1010.65	15.990	10.09	51.10	26.33	12.51	6.76	3.31
98R-1, 66–68	1020.36–1020.37	16.280	7.49	76.33	13.93	6.28	2.54	0.92
99R-1, 64–66	1029.84–1029.85	16.560	6.48	20.17	1.39	0.87	1.32	76.25
100R-1, 65–67	1039.45–1039.46	16.850	2.12	83.48	10.10	4.83	1.59	0.00
101R-1, 64–66	1049.04–1049.05	17.130	5.17	92.13	5.65	1.57	0.64	0.00
101R-2, 66–68	1050.56–1050.57	17.180	8.68	83.14	11.35	1.79	1.70	2.02
102R-1, 56–58	1053.26–1053.27	17.260	8.13	93.76	4.48	0.98	0.77	0.00
102R-2, 69–71	1054.89–1054.90	17.310	6.79	88.07	5.30	1.46	1.94	3.23
102R-3, 68–70	1056.38–1056.39	17.350	9.75	93.56	4.87	1.02	0.38	0.17
102R-4, 65–67	1057.85–1057.86	17.400	15.00	54.28	5.68	0.90	0.89	38.25
103R-1, 64–66	1058.64–1058.65	17.420	13.94	87.56	8.46	1.21	1.57	1.20
103R-2, 64–66	1060.14–1060.15	17.470	5.10	93.94	4.22	1.28	0.56	0.00
103R-3, 64–66	1061.64–1061.65	17.510	4.81	78.72	8.04	6.87	6.36	0.00

Notes: Hole 909A position: 78°35.064'N. 3°4.374'E, water depth from sea surface = 2519.0 m.

Table 3. Site 908 coarse fraction composition.

Table 3 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	> 63 µm (wt%)	Coal fragments (grain%)	Quartz, angular to subrounded (grain%)	Quartz, rounded (grain%)	Feldspar (grain%)	Muscovite mica (grain%)	Biotite mica (grain%)	Rock fragments, metamorphic (grain%)	Rock fragments, igneous (grain%)	Rock fragments, sedimentary (grain%)	Volcanic glass (grain%)	Glaucite (grain%)	Pyrite (grain%)	Other grains (grain%)	Benthic forams., agglutinated (grain%)	Planktonic forams. (grain%)	Radiolarians (grain%)	Diatoms (grain%)	Flagellates (grain%)	Sponge spicules (grain%)			
8H-7, 9-11	71.49–71.50	2.156	21.19	0.00	78.83	0.19	4.16	0.95	0.57	6.81	0.00	7.94	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
9H-1, 9-11	71.99–72.00	2.165	9.28	0.00	70.27	0.52	3.44	2.41	0.17	9.62	0.00	11.17	0.00	0.17	1.37	0.69	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	
9H-2, 9-11	73.49–73.50	2.191	6.40	0.00	82.51	0.18	5.10	5.10	0.73	3.10	0.00	2.37	0.00	0.00	0.55	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9H-3, 10-12	75.00–75.01	2.217	7.00	1.54	45.21	0.17	2.23	17.29	1.03	1.71	0.00	12.67	0.00	0.86	13.53	3.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9H-4, 9-11	76.38–76.39	2.241	8.00	0.00	76.78	0.00	4.02	2.93	0.00	6.40	0.00	4.75	0.18	0.18	2.93	0.91	0.18	0.00	0.73	0.00	0.00	0.00	0.00	0.00	
9H-5, 9-11	77.88–77.89	2.268	6.66	0.00	79.58	0.00	5.34	6.68	1.15	1.53	0.00	1.53	0.00	0.38	2.67	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9H-6, 9-11	79.38–79.39	2.294	8.36	0.00	58.97	0.37	4.03	5.68	0.37	2.56	0.92	23.26	0.92	0.00	0.00	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10H-1, 9-11	81.49–81.50	2.331	6.92	0.00	66.17	0.00	2.06	4.67	0.56	0.37	0.37	21.50	1.50	0.93	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10H-2, 9-11	82.99–83.00	2.357	9.80	0.00	40.56	0.80	0.20	0.80	0.20	0.20	0.20	51.61	1.00	3.01	0.80	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10H-3, 9-11	84.49–84.50	2.383	8.11	0.00	67.64	0.00	1.55	4.84	0.78	0.19	0.00	18.99	1.16	0.39	2.71	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10H-4, 9-11	85.99–86.00	2.409	21.23	0.00	60.69	1.65	1.83	2.56	0.55	0.00	0.37	28.70	0.55	1.83	0.00	1.10	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	
10H-5, 9-11	87.49–87.50	2.436	25.86	0.00	77.76	0.58	6.58	2.13	0.77	8.90	0.00	0.58	0.19	0.77	0.97	0.58	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	
10H-6, 9-11	88.99–89.00	2.462	18.09	0.00	81.56	0.54	8.68	1.63	0.72	5.06	0.00	0.54	0.18	0.18	0.54	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10H-CC, 9-11	90.16–90.17	2.482	16.33	0.75	67.74	5.66	4.53	0.57	0.94	5.66	0.75	10.57	0.00	0.75	1.51	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11X-3, 7-9	93.97–93.98	2.549	18.85	0.00	53.70	1.52	3.42	0.00	0.38	5.50	0.00	29.60	0.00	0.95	0.76	0.00	3.98	0.00	0.00	0.19	0.00	0.00	0.00	0.00	
12X-1, 9-11	100.69–100.70	2.712	7.30	0.00	77.71	2.29	4.95	1.90	0.38	7.62	0.95	2.86	0.19	0.38	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
12X-2, 9-11	102.19–102.20	2.750	5.92	0.00	58.87	1.36	7.21	3.90	2.92	14.23	1.36	0.97	0.78	0.19	7.99	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12X-2, 90–92	103.00–103.01	2.771	14.25	0.00	58.77	0.00	0.93	4.10	0.19	3.73	0.00	30.78	0.00	0.00	0.75	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.37		
12X-3, 9-11	103.69–103.70	2.789	14.55	0.00	64.23	0.00	0.18	0.71	0.36	27.94	0.00	4.27	0.00	0.00	0.53	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12X-4, 9-11	105.19–105.20	2.827	15.22	0.00	44.89	0.17	3.81	11.27	9.53	1.56	0.00	27.21	0.00	0.00	0.35	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13X-1, 9-11	110.49–110.50	2.963	6.77	1.08	71.63	0.00	3.23	13.82	4.31	1.80	0.00	1.26	0.00	0.18	0.72	1.80	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	
13X-2, 9-10	111.99–112.00	3.002	6.43	0.00	55.20	0.20	1.60	11.20	1.80	1.40	0.80	20.80	1.80	0.20	1.20	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13X-3, 9-11	113.49–113.50	3.123	2.66	0.00	55.22	0.00	0.90	19.24	1.80	0.00	0.18	12.59	1.26	0.36	2.88	5.22	0.00	0.18	0.00	0.00	0.18	0.00	0.00	0.00	
13X-4, 9-11	114.99–115.00	3.163	4.22	0.00	53.13	0.00	0.76	7.97	1.14	0.95	0.57	27.70	1.71	0.38	4.93	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13X-5, 9-11	116.49–116.50	3.204	10.09	0.00	66.08	0.71	1.06	12.72	2.47	0.00	0.00	13.96	0.88	0.00	0.00	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13X-6, 9-11	117.99–118.00	3.360	23.31	0.00	71.88	0.00	1.06	6.10	0.80	0.53	0.00	16.18	0.80	0.53	0.27	1.59	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13X-CC, 9-11	119.09–119.10	3.426	15.34	0.00	54.04	0.19	3.46	24.42	5.00	4.62	0.00	5.96	0.19	0.00	0.38	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14X-1, 90–92	120.90–120.91	3.536	8.66	0.00	69.93	0.00	4.63	10.68	1.42	4.09	0.00	7.47	0.18	0.18	0.36	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14X-2, 90–92	122.40–122.41	3.626	12.33	0.00	56.09	0.39	10.06	15.28	1.35	3.29	0.00	10.83	0.00	0.00	1.93	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14X-3, 89–91	123.89–123.90	3.712	3.05	0.00	30.71	0.00	3.00	24.53	3.00	1.31	0.00	30.34	0.19	0.00	3.00	3.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14X-4, 88–91	125.38–125.40	3.799	3.66	0.00	51.92	0.19	4.81	16.92	0.96	1.15	0.00	13.46	0.00	0.19	8.08	2.12	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	
14X-CC, 9-11	126.64–126.65	3.872	4.16	0.00	54.68	0.19	8.61	14.79	2.43	1.12	0.00	13.67	0.19	0.00	2.43	1.69	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	
15X-1, 90–93	130.60–130.62	4.088	5.00	0.00	58.78	0.17	7.83	14.43	1.04	1.74	0.00	6.78	0.00	1.22	4.87	2.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	
15X-2, 90–93	132.10–132.12	4.148	0.34	0.00	45.14	0.00	4.28	2.14	1.17	0.39	0.39	12.06	0.00	0.00	31.32	2.72	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	
15X-3, 90–93	133.60–133.62	4.208	1.36	0.00	55.03	0.00	0.59	3.75	0.39	1.18	0.20	19.72	0.79	0.20	14.00	4.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16X-1, 9-11	139.29–139.30	4.435	5.00	0.00	65.33	0.76	1.33	5.33	0.19	2.29	1.90	10.48	0.76	3.24	6.48	1.33	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.19	
16X-2, 91–94	141.61–141.63	4.528	1.44	0.14	63.48	0.00	0.42	3.65	1.12	0.56	0.98	22.89	3.23	0.84	0.70	1.40	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.28	
16X-3, 91–94	143.11–143.13	4.588	0.17	0.00	39.96	0.00	1.77	0.98	0.00	0.79	1.18	51.57	0.39	0.59	1.18	0.79	0.00	0.59	0.20	0.00	0.00	0.00	0.00	0.00	
1/16X-4, 91–94	144.61–144.63	4.648	1.62	0.00	48.68	0.20	1.01	3.85	0.61	0.00	1.42	41.18	0.81	0.20	0.81	0.81	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.00	
2/16X-4, 91–94	144.61–144.63	4.648	12.41	0.00	70.30	0.00	0.15	4.24	1.97	0.15	0.00	16.82	0.61	4.09	0.91	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17X-1, 9-12	148.79–148.81	4.815	2.92	0.00	52.55	0.00	1.37	2.16	0.78	0.39	0.00	26.27	0.59	1.37	10.39	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.14	
17X-2, 9-12	150.29–150.31	4.875	3.32	0.00	52.80	0.00	1.87	2.61	0.37	0.75	1.31	24.44	1.12	0.75	11.19	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31	
17X-3, 9-12	151.79–151.81	4.935	22.14	0.00	71.55	1.16	1.66	1.00</																	

Table 3 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	> 63 µm (wt%)	Coal fragments (grain%)	Quartz, angular to subrounded (grain%)	Quartz, rounded (grain%)	Feldspar (grain%)	Muscovite mica (grain%)	Biotite mica (grain%)	Rock fragments, metamorphic (grain%)	Rock fragments, igneous (grain%)	Rock fragments, sedimentary (grain%)	Volcanic glass (grain%)	Glaucite (grain%)	Pyrite (grain%)	Other grains (grain%)	Benthic forams., agglutinated (grain%)	Benthic forams., calcareous (grain%)	Planktonic forams. (grain%)	Radiolarians (grain%)	Diatoms (grain%)	Flagellates (grain%)	Sponge spicules (grain%)	
18X-7, 9–12	167.29–167.31	5.555	0.21	0.00	27.39	0.19	1.53	1.92	0.57	0.77	0.00	7.28	0.00	0.19	1.34	58.43	0.00	0.00	0.00	0.19	0.00	0.00	0.19	
19X-1, 90–93	168.70–168.72	5.611	0.49	0.00	48.94	0.00	1.33	1.86	0.00	0.27	1.06	38.56	1.33	0.00	1.33	5.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19X-2, 90–93	170.20–170.22	5.671	2.23	0.00	42.69	0.00	1.55	16.70	1.55	0.34	2.75	18.93	4.13	2.58	4.48	4.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19X-3, 90–93	171.70–171.72	5.731	8.74	0.00	71.04	0.14	2.19	13.39	0.55	1.37	0.55	1.78	0.14	3.55	2.19	2.87	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19X-4, 90–93	173.20–173.22	5.791	1.89	0.00	39.43	0.00	0.57	3.96	0.19	0.00	0.19	26.98	1.13	2.45	6.79	16.79	0.19	1.13	0.19	0.00	0.00	0.00	0.00	0.00
19X-5, 90–93	174.70–174.72	5.851	2.80	0.00	37.45	0.00	1.79	2.79	0.40	0.00	0.00	10.36	2.59	2.99	10.16	31.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20X-1, 8–11	177.48–177.50	5.962	1.26	0.00	43.88	0.00	0.90	2.16	0.54	0.72	1.08	16.73	1.44	1.80	20.68	9.53	0.00	0.18	0.36	0.00	0.00	0.00	0.00	0.00
20X-2, 8–11	178.98–179.00	6.022	7.88	0.00	58.02	0.00	1.98	3.37	0.79	0.00	0.79	18.22	0.40	6.73	0.99	8.51	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
20X-3, 8–11	180.48–180.50	6.082	22.30	0.00	38.77	0.00	1.54	0.58	0.00	0.00	0.77	11.90	0.38	19.00	21.88	5.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20X-4, 8–11	181.98–182.00	6.142	2.03	0.00	50.39	0.00	2.91	2.91	0.00	0.19	0.19	15.31	0.78	1.74	11.24	13.95	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00
20X-5, 8–11	183.48–183.50	6.202	34.01	0.00	15.47	0.00	0.19	3.09	0.39	0.00	0.00	5.22	0.19	72.15	0.19	1.74	0.00	0.00	0.19	0.00	0.00	0.00	1.16	0.00
20X-5, 89–92	184.29–184.31	6.234	40.92	0.00	24.90	0.00	0.57	0.19	0.19	0.00	0.00	1.71	0.19	67.11	0.00	0.95	0.00	0.00	0.19	0.00	0.00	0.00	3.99	0.00
20X-6, 8–11	184.98–185.00	6.262	5.73	0.00	50.84	0.00	1.85	6.40	1.68	0.17	0.34	16.67	0.84	10.44	1.35	8.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18
20X-7, 8–11	186.48–186.50		2.27	0.00	20.11	0.18	0.72	0.90	0.00	0.00	0.00	35.19	0.54	5.57	26.57	8.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26

Notes: Hole 908A position: 78° 23.112'N, 1° 21.637'E; water depth from sea surface = 1273.52 m.

Table 4. Site 909 coarse fraction composition.

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	>63 µm (wt%)	Coal fragments (grain%)	Quartz, angular to subrounded (grain%)	Feldspar (grain%)	Muscovite mica (grain%)	Biotite mica (grain%)	Rock fragments, metamorphic (grain%)	Rock fragments, igneous (grain%)	Rock fragments, sedimentary (grain%)	Volcanic glass (grain%)	Glaucite (grain%)	Pyrite (grain%)	Other grains (grain%)	Benthic forams., agglutinated (grain%)	Planktonic forams. (grain%)	Radiolarians (grain%)	Diatoms (grain%)	Flagellates (grain%)	Sponge spicules (grain%)		
151-909A-																							
1H-1, 9–11	0.09–0.10	0.000	14.87	0.00	59.26	0.56	2.96	1.30	0.37	17.41	1.11	0.37	0.00	0.00	1.30	1.85	0.00	0.37	13.52	0.00	0.00	0.00	
1H-1, 90–92	0.90–0.91	0.020	8.90	0.00	11.06	0.15	1.05	0.60	0.00	1.35	0.00	0.00	0.15	0.00	0.00	1.05	0.15	0.00	84.31	0.00	0.00	0.00	
1H-2, 9–11	1.59–1.60	0.030	6.67	0.00	79.15	2.84	3.56	0.95	0.00	9.24	0.00	0.24	0.71	0.00	1.42	1.19	0.00	0.24	0.47	0.00	0.00	0.00	
1H-2, 90–92	2.40–2.41	0.050	4.77	0.00	77.38	0.89	2.88	2.66	0.67	10.42	0.00	0.00	0.44	0.44	0.67	2.66	0.00	0.00	0.89	0.00	0.00	0.00	
1H-3, 9–11	3.09–3.10	0.070	13.19	0.00	40.29	0.00	4.75	8.88	0.62	4.55	0.00	0.00	0.00	0.00	0.00	0.00	2.27	0.00	0.41	38.22	0.00	0.00	0.00
1H-3, 90–92	3.90–3.91	0.080	2.69	0.00	25.99	1.13	11.30	1.51	0.00	12.43	0.00	0.00	0.00	0.00	3.20	2.45	0.00	0.94	41.06	0.00	0.00	0.00	
1H-4, 9–11	4.59–4.60	0.100	30.11	0.00	87.18	1.95	2.44	2.11	0.00	3.41	0.16	0.00	0.49	0.49	0.65	1.14	0.00	0.00	0.00	0.00	0.00	0.00	
1H-4, 90–92	5.40–5.41	0.120	32.77	0.00	85.52	3.67	4.63	0.77	0.00	3.48	0.19	0.00	0.39	0.00	0.58	0.58	0.00	0.00	0.19	0.00	0.00	0.00	
1H-5, 9–11	6.09–6.10	0.130	7.51	0.00	80.74	2.01	2.51	3.35	0.34	4.36	0.00	0.34	0.50	0.00	0.84	4.86	0.00	0.00	0.17	0.00	0.00	0.00	
1H-5, 90–92	6.90–6.91	0.150	13.77	0.00	31.83	2.41	2.89	1.13	0.32	4.50	0.00	0.00	0.80	0.00	1.29	0.16	0.16	0.16	54.34	0.00	0.00	0.00	
1H-CC, 9–11	7.21–7.22	0.150	5.01	0.00	65.82	1.63	13.38	3.44	0.54	8.86	0.00	0.18	0.90	0.00	2.71	2.35	0.00	0.00	0.18	0.00	0.00	0.00	
2H-1, 9–11	7.59–7.60	0.160	6.49	0.00	60.23	5.11	13.78	4.26	0.71	7.10	0.00	0.14	0.00	0.00	1.56	2.42	0.00	0.14	4.55	0.00	0.00	0.00	
2H-1, 90–92	8.40–8.41	0.180	2.82	0.00	67.28	5.20	9.90	6.38	0.34	7.72	0.00	0.17	0.17	0.00	1.34	1.51	0.00	0.00	0.00	0.00	0.00	0.00	
2H-2, 9–11	9.09–9.10	0.190	29.65	0.00	69.45	1.17	10.18	4.17	0.00	10.52	0.00	0.33	1.00	0.00	2.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00	
2H-2, 90–92	9.90–9.91	0.210	5.56	0.00	14.65	0.32	1.10	0.95	0.00	1.42	0.00	0.00	0.00	0.00	0.00	0.16	0.00	2.68	78.74	0.00	0.00	0.00	
2H-3, 9–11	10.59–10.60	0.230	20.19	0.00	71.55	2.22	6.82	3.58	0.17	8.35	0.00	0.15	0.51	0.00	1.19	4.09	0.00	0.00	0.00	0.00	0.00	0.00	
2H-3, 90–92	11.40–11.41	0.240	3.43	0.00	54.96	2.02	10.66	8.09	0.92	17.65	0.18	0.18	0.18	0.00	1.10	3.86	0.00	0.00	0.18	0.00	0.00	0.00	
2H-4, 9–11	12.09–12.10	0.260	32.64	0.43	71.86	1.49	10.88	0.00	0.00	8.74	0.00	0.21	0.64	0.00	0.21	5.12	0.00	0.00	0.21	0.00	0.00	0.00	
2H-4, 90–92	12.90–12.91	0.280	24.20	0.00	82.43	1.50	6.91	1.95	0.00	5.41	0.00	0.05	0.75	0.00	0.60	0.30	0.00	0.00	0.15	0.00	0.00	0.00	
2H-5, 9–11	13.59–13.60	0.290	10.23	0.00	63.07	2.86	5.07	1.82	0.65	20.55	0.00	0.13	1.69	0.00	3.12	1.04	0.00	0.00	0.00	0.00	0.00	0.00	
2H-5, 90–92	14.40–14.41	0.310	22.34	0.00	83.49	3.05	4.17	3.69	0.16	2.72	0.00	0.16	1.76	0.00	0.32	0.48	0.00	0.00	0.00	0.00	0.00	0.00	
2H-6, 9–11	15.09–15.10	0.320	3.02	0.00	77.04	3.16	3.49	1.66	0.33	11.65	0.00	0.17	0.83	0.00	1.17	0.33	0.00	0.00	0.17	0.00	0.00	0.00	
2H-6, 90–92	15.90–15.91	0.340	23.76	0.00	75.77	1.40	2.94	5.46	0.28	6.86	0.42	0.14	1.26	0.00	1.40	0.14	0.14	0.00	3.78	0.00	0.00	0.00	
2H-7, 9–11	16.59–16.60	0.350	33.56	0.00	80.47	0.83	3.32	2.36	0.00	11.63	0.00	0.00	0.83	0.00	0.42	0.14	0.00	0.00	0.00	0.00	0.00	0.00	
3H-1, 9–10	17.09–17.10	0.360	15.19	0.00	76.41	1.63	2.67	1.19	0.15	15.58	0.00	0.00	1.19	0.00	0.89	0.30	0.00	0.00	0.00	0.00	0.00	0.00	
2H-CC, 10–12	17.24–17.25	0.370	8.27	0.00	75.97	2.16	2.16	1.15	0.14	12.52	0.14	0.43	0.86	0.00	4.17	2.29	0.00	0.00	0.00	0.00	0.00	0.00	
3H-1, 90–92	17.90–17.91	0.380	6.83	0.00	33.51	0.81	0.54	0.41	0.00	6.11	0.00	0.00	0.41	0.00	1.09	57.12	0.00	0.00	0.00	0.00	0.00	0.00	
3H-2, 9–10	18.59–18.60	0.400	3.49	0.00	76.20	2.40	1.35	2.55	0.30	13.77	0.00	0.15	0.60	0.00	2.25	0.45	0.00	0.00	0.00	0.00	0.00	0.00	
3H-2, 90–92	19.40–19.41	0.410	5.88	0.00	75.36	0.89	2.48	2.48	0.89	12.59	0.00	0.71	1.06	0.00	2.13	0.71	0.00	0.00	0.71	0.00	0.00	0.00	
3H-3, 9–10	20.09–20.10	0.430	6.87	0.00	66.08	2.39	2.39	8.28	2.07	16.08	0.00	0.00	0.80	0.00	1.43	0.48	0.00	0.00	0.00	0.00	0.00	0.00	
3H-3, 90–92	20.90–20.91	0.450	11.65	0.00	88.42	1.13	0.32	1.61	0.16	6.43	0.00	0.00	0.97	0.00	0.80	0.16	0.00	0.00	0.00	0.00	0.00	0.00	
3H-4, 9–10	21.59–21.60	0.460	15.25	0.16	80.23	1.29	3.70	4.50	0.16	6.11	0.00	0.16	0.97	0.00	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3H-4, 90–92	22.40–22.41	0.480	0.09	0.00	86.47	0.99	1.65	2.64	0.00	2.97	0.00	0.33	0.66	0.00	0.99	3.30	0.00	0.00	0.00	0.00	0.00	0.00	
3H-5, 9–10	23.09–23.10	0.490	6.80	0.00	31.45	0.74	0.30	1.04	0.30	4.60	0.45	0.45	0.30	0.00	1.19	0.59	0.15	0.15	56.97	0.00	0.00	0.00	
3H-5, 90–92	23.90–23.91	0.510	6.65	0.00	49.14	1.06	2.11	4.36	0.53	19.82	0.13	0.13	0.66	0.00	2.25	1.06	0.13	1.85	16.78	0.00	0.00	0.00	
3H-6, 9–10	24.59–24.60	0.520	28.24	0.00	76.21	4.14	3.79	0.35	0.00	10.00	0.00	0.35	0.52	0.17	3.10	1.55	0.00	0.00	0.00	0.00	0.00	0.00	
3H-6, 90–92	25.40–25.41	0.540	4.60	0.00	55.49	11.13	2.57	2.57	0.43	13.70	0.00	0.57	0.57	0.14	3.71	8.85	0.00	0.00	0.29	0.00	0.00	0.00	
3H-7, 9–10	26.09–26.10	0.560	15.91	0.00	54.25	12.19	5.48	3.97	0.82	13.43	0.00	0.35	0.82	0.96	1.64	2.19	0.27	0.00	0.27	0.00	0.00	0.00	
4H-1, 9–11	26.59–26.60	0.570	14.11	0.00	56.75	4.60	2.91	6.60	0.31	16.56	0.00	0.37	1.69	0.77	2.45	2.76	0.00	0.00	1.23	0.00	0.00	0.00	
3H-CC, 9–10	26.61–26.62	0.570	25.72	0.00	75.28	2.23	2.87	1.44	0.16	7.82	0.00	0.48	1.91	0.16	1.12	6.70	0.00	0.00	0.00	0.00	0.00	0.00	
4H-1, 90–92	27.40–27.41	0.580	8.82	0.00	44.77	1.86	2.67	2.21	0.00	17.33	0.00	1.28	0.35	0.23	2.44	1.28	0.12	0.12	25.35	0.00	0.00	0.00	
4H-2, 9–11	28.09–28.10	0.600	21.04	0.00	60.03	5.02	3.69	0.44	0.15	5.75	0.00	0.00	15.93	0.30	0.00	6.79	1.92	0.00	0.00	0.00	0.00	0.00	0.00
4H-2, 90–92	28.90–28.91	0.620	18.48	0.00	58.42	3.40	1.98	5.66	0.28	8.77	0.00	6.65	0.85	0.00	3.11	10.89	0.00	0.00	0.00	0.00	0.00	0.00	
4H-3, 9–11	29.59–29.60	0.630	13.24	0.00	66.67	6.58	8.92	2.97	0.21	8.49	0.00	0.00	1.06	0.43	2.12	2.55	0.00	0.00	0.00	0.00	0.00	0.00	
4H-3, 90–92	30.40–30.41	0.650	10.31	0.00	70.34	3.73	3.73	2.76	1.14	12.97	0.00	0.32	1.14	0.00	3.08	0.81	0.00	0.00	0.00	0.00	0.00	0.00	
4H-4, 9–11	31.09–31.10	0.660	4.58	0.00	65.53	1																	

Table 4 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	> 63 µm (wt%)	Coal fragments (grain%)	Quartz, angular to subrounded (grain%)	Quartz, rounded (grain%)	Feldspar (grain%)	Muscovite mica (grain%)	Biotite mica (grain%)	Rock fragments, metamorphic (grain%)	Rock fragments, igneous (grain%)	Rock fragments, sedimentary (grain%)	Volcanic glass (grain%)	Glaucite (grain%)	Pyrite (grain%)	Other grains (grain%)	Benthic forams., agglutinated (grain%)	Planktonic forams., calcareous (grain%)	Radiolarians (grain%)	Diatoms (grain%)	Flagellates (grain%)	Sponge spicules (grain%)
5H-1, 9–11	36.09–36.10	0.770	7.54	0.00	64.18	9.50	7.02	5.41	0.00	11.26	0.00	0.00	0.73	0.00	0.44	1.46	0.00	0.00	0.00	0.00	0.00	0.00
4H-CC, 9–11	36.39–36.40	0.780	6.00	0.34	72.06	2.56	4.26	8.52	4.09	5.45	0.00	0.00	1.53	0.00	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.00
5H-1, 90–92	36.90–36.91	0.790	9.58	0.20	74.04	0.60	6.44	1.41	0.40	14.49	0.00	0.40	0.40	0.00	0.00	1.21	0.40	0.00	0.00	0.00	0.00	0.00
5H-2, 9–11	37.59–37.60	0.810	8.78	0.00	67.53	3.88	6.79	9.21	0.00	11.47	0.00	0.00	0.97	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00
5H-2, 90–92	38.40–38.41	0.830	4.70	0.00	62.41	4.39	9.88	7.13	0.69	12.07	0.00	0.00	1.37	0.00	0.00	0.82	1.24	0.00	0.00	0.00	0.00	0.00
5H-3, 9–11	39.09–39.10	0.850	26.88	0.00	74.20	4.02	7.37	3.18	0.34	7.87	0.34	0.00	1.17	0.00	1.01	0.50	0.00	0.00	0.00	0.00	0.00	0.00
5H-3, 90–92	39.90–39.91	0.870	8.86	0.00	56.85	0.34	10.45	7.71	3.08	17.12	0.00	0.00	0.69	0.00	0.00	2.23	1.54	0.00	0.00	0.00	0.00	0.00
5H-4, 9–11	40.59–40.60	0.890	8.16	0.00	62.31	5.14	6.54	8.26	0.78	11.37	0.00	0.00	0.78	0.00	0.00	1.09	3.74	0.00	0.00	0.00	0.00	0.00
5H-4, 90–92	41.40–41.41	0.910	25.07	0.28	60.48	18.02	2.93	4.89	0.00	9.36	0.00	0.00	0.56	0.00	0.00	0.28	3.21	0.00	0.00	0.00	0.00	0.00
5H-5, 9–11	42.09–42.10	0.930	3.91	0.16	60.83	3.50	2.39	4.94	0.96	8.12	0.00	0.00	0.32	0.00	0.00	1.75	17.04	0.00	0.00	0.00	0.00	0.00
5H-5, 90–92	42.90–42.91	0.950	56.96	0.00	74.44	2.23	9.26	0.17	0.00	3.60	0.00	0.00	1.03	0.00	0.00	0.17	9.09	0.00	0.00	0.00	0.00	0.00
5H-6, 9–11	43.59–43.60	0.970	0.22	0.00	79.78	1.81	2.89	0.36	0.00	14.80	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00
5H-6, 90–92	44.40–44.41	0.990	11.15	0.49	66.45	2.30	5.26	5.76	0.00	9.21	0.16	0.00	1.81	0.16	0.00	0.33	7.73	0.00	0.00	0.33	0.00	0.00
5H-7, 9–11	45.09–45.10	1.000	13.79	0.16	74.45	0.47	7.37	5.49	2.19	8.46	0.16	0.00	0.63	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00
6H-1, 9–11	45.59–45.60	1.010	12.83	0.38	78.35	3.07	3.26	3.26	0.19	5.17	0.58	0.38	0.58	0.00	0.00	0.38	4.41	0.00	0.00	0.00	0.00	0.00
6H-CC, 9–11	45.80–45.81	1.020	4.29	0.31	57.88	0.78	3.43	9.67	1.87	10.92	0.00	0.00	0.78	0.00	0.00	1.87	12.48	0.00	0.00	0.00	0.00	0.00
6H-1, 90–93	46.40–46.42	1.030	13.41	0.18	75.54	3.26	3.62	4.53	0.73	3.99	0.00	0.36	1.45	0.36	0.91	5.07	0.00	0.00	0.00	0.00	0.00	0.00
6H-2, 9–11	47.09–47.10	1.050	6.29	0.00	61.74	4.50	2.25	3.70	0.00	10.61	1.77	0.00	0.64	0.00	0.00	1.61	13.18	0.00	0.00	0.00	0.00	0.00
6H-3, 9–11	47.86–47.87	1.060	10.25	0.00	61.07	1.66	1.29	8.86	2.03	9.59	0.00	0.00	0.19	0.00	0.00	0.37	14.95	0.00	0.00	0.00	0.00	0.00
6H-4, 9–11	48.69–48.70	1.070	9.89	0.00	53.86	0.93	2.78	9.11	2.62	10.03	0.00	0.00	0.77	0.00	0.00	0.77	19.14	0.00	0.00	0.00	0.00	0.00
6H-5, 9–11	50.11–50.12	1.080	11.38	0.15	54.87	1.48	3.25	6.64	1.18	22.86	0.00	0.00	0.59	0.00	0.00	0.44	8.56	0.00	0.00	0.00	0.00	0.00
6H-4, 90–93	49.50–49.52	1.080	35.67	0.32	60.00	0.65	1.29	3.55	0.32	6.45	0.00	0.00	0.97	0.00	0.00	0.97	25.48	0.00	0.00	0.00	0.00	0.00
6H-5, 90–93	50.92–50.94	1.090	7.30	0.60	47.52	0.90	3.01	6.92	3.76	17.44	0.00	0.30	0.75	0.00	0.00	1.50	17.29	0.00	0.00	0.00	0.00	0.00
6H-6, 9–11	51.53–51.54	1.100	15.79	0.34	64.70	1.01	4.39	3.38	0.00	14.19	0.00	0.28	0.85	0.00	0.00	0.00	8.28	0.00	0.00	0.00	0.00	0.00
6H-6, 90–93	52.34–52.36	1.110	36.10	0.00	79.14	2.39	12.74	0.16	0.00	3.50	0.00	0.00	0.96	0.00	0.00	0.16	0.96	0.00	0.00	0.00	0.00	0.00
6H-7, 9–11	52.95–52.96	1.120	19.19	0.00	55.52	0.96	2.08	14.88	1.44	9.92	0.32	0.00	1.44	0.00	0.00	0.00	13.44	0.00	0.00	0.00	0.00	0.00
6H-7, 90–93	53.76–53.78	1.130	22.63	0.00	67.51	1.81	20.22	1.99	0.00	7.94	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6H-CC, 9–11	54.37–54.38	1.130	21.98	0.00	57.26	1.38	12.73	0.28	0.14	15.77	0.00	0.00	0.97	0.00	0.00	0.42	11.07	0.00	0.00	0.00	0.00	0.00
7H-1, 9–11	55.59–55.60	1.150	5.05	0.00	67.51	5.39	9.03	3.01	1.27	9.19	0.00	0.00	0.63	0.00	0.00	0.00	3.96	0.00	0.00	0.00	0.00	0.00
7H-1, 90–93	56.40–56.42	1.160	9.78	0.00	74.39	3.09	5.30	1.10	0.22	10.82	0.00	0.00	0.00	0.00	0.00	0.44	4.64	0.00	0.00	0.00	0.00	0.00
7H-2, 9–11	57.00–57.01	1.160	16.01	0.18	71.97	5.43	3.98	1.63	0.54	11.39	0.00	0.00	0.72	0.00	0.00	0.00	4.16	0.00	0.00	0.00	0.00	0.00
7H-2, 90–93	57.81–57.83	1.170	14.51	0.00	78.09	2.65	3.36	4.24	0.88	8.30	0.00	0.00	1.06	0.00	0.00	0.35	1.06	0.00	0.00	0.00	0.00	0.00
7H-3, 9–11	58.41–58.42	1.180	13.36	0.00	72.95	4.42	4.68	0.39	0.13	9.23	0.00	0.00	1.17	0.13	0.13	0.13	6.76	0.00	0.00	0.00	0.00	0.00
7H-3, 90–93	59.22–59.24	1.190	14.46	0.00	49.28	1.99	4.35	2.36	2.72	13.77	0.00	0.00	0.18	0.00	0.00	1.81	23.55	0.00	0.00	0.00	0.00	0.00
7H-4, 9–11	59.82–59.83	1.200	7.24	0.00	54.27	2.35	6.20	5.19	1.17	9.21	0.17	0.00	1.34	0.00	0.00	0.50	19.60	0.00	0.00	0.00	0.00	0.00
7H-4, 90–93	60.63–60.65	1.210	6.95	0.00	59.53	1.35	0.34	5.73	1.35	5.90	0.00	0.00	1.52	0.00	0.00	0.00	24.28	0.00	0.00	0.00	0.00	0.00
7H-5, 9–11	61.23–61.24	1.210	3.20	0.00	58.23	3.44	2.95	0.74	0.74	5.41	0.00	0.00	0.00	0.00	0.00	0.49	28.01	0.00	0.00	0.00	0.00	0.00
7H-5, 90–93	62.04–62.06	1.220	3.16	0.00	72.93	1.19	3.95	6.92	1.58	7.91	0.00	0.00	0.20	0.00	0.00	0.00	5.34	0.00	0.00	0.00	0.00	0.00
7H-6, 9–11	62.64–62.65	1.230	6.11	0.00	69.09	3.54	2.56	4.13	1.77	12.80	1.38	0.39	0.59	0.20	0.00	0.39	3.15	0.00	0.00	0.00	0.00	0.00
7H-6, 90–93	63.45–63.47	1.240	0.21	0.00	65.70	1.57	14.57	0.90	0.00	13.23	0.00	0.00	0.67	0.00	0.00	0.00	3.36	0.00	0.00	0.00	0.00	0.00
7H-7, 9–11	64.14–64.15	1.250	0.19	0.00	57.74	1.19	3.57	5.36	0.60	21.43	0.00	0.00	0.00	0.00	0.00	0.00	10.12	0.00	0.00	0.00	0.00	0.00
7H-7, 90–93	64.95–64.97	1.260	1.67	0.00	52.70	1.68	0.00	2.23	0.00	11.17	0.00	0.00	0.37	0.00	0.00	0.37	31.47	0.00	0.00	0.00	0.00	0.00
8H-1, 6–8	65.06–65.07	1.260	44.59	0.00	92.61	0.88	1.76	0.00	0.00	2.47	0.00	0.00	0.70	0.00	0.00	1.58	0.00	0.00	0.00	0.00	0.00	0.00
7H-CC, 9–11	65.64–65.65	1.260	8.15	0.22	67.03	4.18	3.96	0.44	0.44	13.85	0.44	0.00	0.66	0.00	0.00	1.10	7.69	0.00	0.00	0.00	0.00	0.00
8H-1, 90–92	65.90–65.91	1.270	7.26	0.22	47.89	2.88	6.43	2.66	1.77	20.18	0.00	0.44	0.89	0.00	0.00	1.11	15.52	0.00	0.00	0.00	0.00	0.00
8H-2, 9–11	66.49–66.50	1.270	7.01	0.36	51.73	2.73	9.65	7.10	3.10	17.85	1.09	2.19	1.46	0.00	0.00	0.18	2.55	0.00	0.00	0.00	0.00	0.

Table 4 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	> 63 µm (wt%)	Coal fragments (grain%)	Quartz, angular to subrounded (grain%)	Feldspar (grain%)	Muscovite mica (grain%)	Biotite mica (grain%)	Rock fragments, metamorphic (grain%)	Rock fragments, igneous (grain%)	Rock fragments, sedimentary (grain%)	Volcanic glass (grain%)	Glaucite (grain%)	Pyrite (grain%)	Other grains (grain%)	Benthic forams., calcareous (grain%)	Planktonic forams. (grain%)	Radiolarians (grain%)	Diatoms (grain%)	Flagellates (grain%)	Sponge spicules (grain%)
8H-5, 90–92	71.52–71.53	1.330	7.73	0.67	72.32	3.69	2.69	3.52	1.85	11.24	0.00	0.84	0.50	0.00	0.34	2.35	0.00	0.00	0.00	0.00	0.00
8H-7, 9–11	72.39–72.40	1.340	5.19	0.00	69.82	2.26	2.67	9.65	2.46	5.54	0.00	0.00	1.23	0.00	0.41	5.96	0.00	0.00	0.00	0.00	0.00
8H-7, 90–92	73.20–73.21	1.350	6.34	0.39	54.55	3.29	11.61	1.93	0.77	20.31	0.19	0.39	1.35	0.00	0.00	5.22	0.00	0.00	0.00	0.00	0.00
9H-1, 9–11	74.09–74.10	1.360	4.60	0.17	63.55	2.01	4.18	5.52	0.67	11.87	0.67	0.84	1.00	0.00	0.00	9.53	0.00	0.00	0.00	0.00	0.00
8H-CC, 9–11	73.90–73.91	1.360	6.13	0.79	64.98	1.43	6.02	3.33	2.85	13.31	0.79	2.38	0.48	0.00	0.63	3.01	0.00	0.00	0.00	0.00	0.00
9H-1, 90–92	74.90–74.91	1.370	7.73	0.00	63.17	5.16	1.25	6.94	3.03	13.52	0.53	0.36	0.89	0.00	0.89	4.27	0.00	0.00	0.00	0.00	0.00
9H-2, 9–11	75.49–75.50	1.380	19.33	0.00	53.09	2.01	4.48	5.25	0.62	7.41	0.00	0.00	1.54	0.00	0.31	25.31	0.00	0.00	0.00	0.00	0.00
9H-3, 9–11	76.89–76.90	1.390	5.53	0.00	54.56	1.83	5.47	6.93	4.56	16.61	0.55	0.18	0.55	0.00	0.55	8.03	0.00	0.00	0.18	0.00	0.00
9H-2, 90–92	76.30–76.31	1.390	4.29	0.21	62.37	0.21	1.87	3.33	0.42	6.24	0.42	0.00	2.08	0.00	0.00	22.87	0.00	0.00	0.00	0.00	0.00
9H-3, 90–92	77.70–77.71	1.400	36.05	0.00	57.59	1.19	5.36	0.15	0.00	10.71	0.30	0.45	0.30	0.00	0.30	23.66	0.00	0.00	0.00	0.00	0.00
9H-4, 9–11	78.29–78.30	1.410	5.44	0.00	68.78	9.35	3.18	2.12	1.24	8.82	0.00	0.18	0.35	0.35	0.00	5.64	0.00	0.00	0.00	0.00	0.00
9H-4, 90–92	79.10–79.11	1.420	11.46	0.00	70.24	23.89	0.00	1.42	1.22	2.43	0.00	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9H-5, 9–11	79.69–79.70	1.430	9.74	0.00	56.13	6.45	5.98	8.49	7.23	13.84	0.47	0.00	0.79	0.00	0.16	0.47	0.00	0.00	0.00	0.00	0.00
9H-5, 90–92	80.50–80.51	1.430	7.62	0.00	61.29	3.30	6.25	4.34	2.78	12.85	0.00	0.17	1.56	0.35	0.35	6.77	0.00	0.00	0.00	0.00	0.00
9H-6, 9–11	81.09–81.10	1.440	10.57	0.00	59.93	4.14	3.15	9.93	1.99	11.59	0.33	0.83	1.33	0.33	0.66	5.80	0.00	0.00	0.00	0.00	0.00
9H-6, 90–92	81.90–81.91	1.450	3.94	0.00	71.51	2.99	2.59	1.20	0.80	11.75	0.40	0.00	1.39	0.00	2.99	4.38	0.00	0.00	0.00	0.00	0.00
9H-CC, 9–11	82.72–82.73	1.460	16.00	0.00	69.67	3.77	6.56	1.97	1.31	12.13	0.00	1.64	0.33	0.00	1.80	0.82	0.00	0.00	0.00	0.00	0.00
9H-7, 9–11	82.49–82.50	1.460	13.52	0.55	57.42	3.30	5.08	0.82	0.96	23.76	0.00	1.10	0.69	0.00	1.24	5.08	0.00	0.00	0.00	0.00	0.00
10H-1, 97–99	83.57–83.58	1.470	9.96	0.15	48.47	6.99	1.75	5.24	1.89	18.78	0.00	0.15	0.87	0.73	0.44	14.56	0.00	0.00	0.00	0.00	0.00
10H-CC, 9–11	84.19–84.20	1.480	15.97	0.00	73.18	4.84	1.86	1.86	0.75	8.94	0.00	0.56	1.12	0.00	1.30	5.59	0.00	0.00	0.00	0.00	0.00
11H-1, 5–7	84.45–84.46	1.480	7.64	0.42	58.83	4.59	3.89	1.11	0.70	10.85	0.00	0.00	0.42	0.00	1.95	17.25	0.00	0.00	0.00	0.00	0.00
11H-1, 90–92	85.30–85.31	1.490	10.15	0.17	64.17	1.38	3.98	1.90	1.21	11.77	0.00	0.00	0.69	0.00	5.71	9.00	0.00	0.00	0.00	0.00	0.00
11H-2, 9–11	85.89–85.90	1.500	4.61	0.32	52.07	2.55	7.96	4.46	1.27	12.90	0.00	0.16	0.32	0.00	2.07	15.92	0.00	0.00	0.00	0.00	0.00
11H-2, 89–91	86.69–86.70	1.510	32.13	0.00	72.34	10.22	8.45	0.41	0.14	6.27	0.00	1.50	0.41	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
11H-3, 9–11	87.29–87.30	1.510	16.85	0.00	60.14	5.94	4.55	0.87	0.70	24.30	0.00	0.52	0.35	0.00	1.40	1.22	0.00	0.00	0.00	0.00	0.00
11H-3, 89–91	88.09–88.10	1.520	10.55	0.00	62.30	12.52	2.62	3.06	2.33	11.65	0.00	1.46	0.44	0.00	0.29	3.35	0.00	0.00	0.00	0.00	0.00
11H-4, 9–11	88.69–88.70	1.530	1.47	0.00	59.17	1.97	10.06	4.14	1.78	16.57	0.00	0.00	0.99	0.00	0.39	4.93	0.00	0.00	0.00	0.00	0.00
11H-5, 9–11	90.09–90.10	1.540	11.41	0.19	53.45	2.49	3.45	4.60	2.11	13.41	0.00	0.00	0.38	0.00	0.38	19.54	0.00	0.00	0.00	0.00	0.00
11H-4, 89–91	89.49–89.50	1.540	12.38	0.20	60.56	2.99	9.16	4.78	2.19	15.54	0.00	0.00	0.80	0.00	0.20	3.59	0.00	0.00	0.00	0.00	0.00
11H-5, 89–91	90.89–90.90	1.550	16.40	0.37	67.16	6.49	9.09	0.37	0.74	10.95	0.00	0.19	2.60	0.00	1.30	0.74	0.00	0.00	0.00	0.00	0.00
11H-6, 9–11	91.49–91.50	1.560	22.70	0.00	59.46	0.72	12.79	3.42	0.36	7.21	0.00	0.00	0.90	0.90	1.44	12.79	0.00	0.00	0.00	0.00	0.00
4R-1, 64–66	114.54–114.55	1.830	4.28	0.00	58.84	8.30	7.76	1.62	0.18	4.15	1.08	10.83	0.00	0.00	14.08	0.90	0.00	0.00	0.54	0.00	0.00
6R-2, 64–66	135.34–135.35	2.070	11.16	0.00	68.79	8.70	6.37	0.78	0.00	11.49	1.24	9.94	0.00	0.47	0.93	0.00	0.00	0.00	0.00	0.00	0.00
7R-4, 65–67	148.05–148.06	2.210	12.52	0.00	91.26	0.00	0.73	0.00	0.36	0.73	5.10	0.73	0.73	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00
8R-2, 65–67	154.75–154.76	2.290	6.67	0.00	77.10	0.00	0.00	4.13	0.00	6.40	1.28	9.82	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9R-1, 64–66	162.94–162.95	2.380	6.80	0.00	73.71	0.00	0.00	2.51	0.00	12.26	3.40	6.79	0.15	0.89	0.00	0.15	0.00	0.00	0.00	0.00	0.00
10R-2, 64–66	174.04–174.05	2.510	33.27	0.00	78.82	5.52	5.71	0.18	0.18	9.39	1.29	3.31	0.00	0.92	0.00	0.18	0.00	0.00	0.00	0.00	0.00
10R-5, 64–66	178.54–178.55	2.560	6.10	0.00	63.30	7.34	4.95	1.10	0.37	9.17	1.47	11.01	0.00	0.18	8.44	0.00	0.00	0.00	0.00	0.00	0.00
11R-5, 64–66	188.24–188.25	2.690	29.20	0.33	68.00	10.17	4.00	0.67	0.00	8.67	1.17	11.83	0.00	0.33	4.33	0.00	0.67	0.00	0.00	0.00	0.00
12R-4, 64–66	196.34–196.35	2.810	7.05	0.00	70.65	6.50	6.15	1.05	0.35	7.73	0.00	6.85	0.00	0.35	6.50	0.00	0.00	0.00	0.00	0.00	0.35
13R-4, 64–66	205.94–205.95	2.950	8.02	0.00	72.88	0.00	0.00	3.25	0.00	1.45	3.25	6.15	0.54	0.54	7.59	0.18	0.00	0.00	0.00	0.00	0.00
14R-3, 64–66	214.14–214.15	3.070	5.75	0.00	73.77	4.93	5.13	0.39	0.39	11.24	0.20	7.50	0.00	0.00	1.18	0.20	0.00	0.00	0.00	0.00	0.00
15R-2, 64–66	222.24–222.25	3.190	3.31	0.78	69.36	0.00	0.00	6.78	0.00	2.74	2.22	6.13	0.13	0.26	10.17	0.78	0.13	0.00	0.13	0.00	0.00
16R-3, 64–66	233.24–233.25	3.350	15.94	0.00	66.41	4.40	6.75	4.87	0.00	7.69	0.94	7.38	0.00	0.63	5.34	0.00	0.00	0.00	0.00	0.00	0.00
17R-3, 64–67	242.84–242.86	3.490	4.87	0.00	68.11	0.79	3.74	0.00	0.00	7.87	0.00	0.79	0.00	0.20	18.90	0.39	0.00	0.00	0.00	0.00	0.00
22R-1, 65–67	288.15–288.16	4.030	3.44	0.00	43.74	0.00	0.00	13.99	1.18	1.77	2.95	29.60	0.00	0.15	4.86	0.74	0.00	0.00	0.00	0.00	0.00
22R-5, 65–67	294.15–294.16	4.240	17.07	0.36	55.22	1.62	5.22	5.76	0.36	11.33	0.18	14.57	0.54	0.90	3.42	2.16	0.00	0.00	0.00	0.00	0.00
23R-1, 65–67	297.75–297.76	4.340	5.73	1.14	67.37	0.98	0.65	6.04	0.16												

Table 4 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	> 63 µm (wt%)	Coal fragments (grain%)	Quartz, angular to subrounded (grain%)	Quartz, rounded (grain%)	Feldspar (grain%)	Muscovite mica (grain%)	Biotite mica (grain%)	Rock fragments, metamorphic (grain%)	Rock fragments, igneous (grain%)	Volcanic glass (grain%)	Glaucite (grain%)	Pyrite (grain%)	Other grains (grain%)	Benthic forams, agglutinated (grain%)	Planktonic forams. (grain%)	Radiolarians (grain%)	Diatoms (grain%)	Flagellates (grain%)	Sponge spicules (grain%)	
29R-2, 56–58	356.96–356.97	5.280	0.08	0.00	20.63	0.17	0.33	2.66	0.33	0.00	0.00	71.71	1.16	0.00	0.33	1.00	0.00	0.00	0.00	0.00	0.00	
31R-1, 64–66	374.74–374.75	5.750	2.75	0.57	23.90	0.00	1.91	12.43	0.57	0.96	0.57	44.17	0.00	0.19	12.05	2.10	0.00	0.00	0.57	0.00	0.00	
31R-4, 64–66	379.24–379.25	5.780	2.46	0.00	46.90	0.00	0.98	5.72	1.63	0.16	0.82	29.58	2.12	0.82	1.96	6.70	0.00	0.00	0.00	0.00	0.00	
32R-1, 64–66	384.24–384.25	5.820	6.31	0.00	13.24	0.00	1.05	7.84	0.00	2.09	0.17	45.12	0.00	0.00	21.08	9.41	0.00	0.00	0.00	0.00	0.00	
33R-1, 64–66	393.74–393.75	5.880	4.67	0.00	13.00	0.60	2.40	4.80	0.00	1.80	0.60	54.60	0.00	0.20	18.00	4.00	0.60	0.00	0.00	0.00	0.00	
33R-5, 64–66	399.74–399.75	5.930	3.38	0.00	46.53	0.00	0.83	8.42	1.49	0.17	0.00	29.54	1.16	2.81	4.79	1.16	0.00	0.00	0.00	0.00	0.00	
34R-2, 64–66	404.94–404.95	5.960	2.30	0.00	36.49	0.00	0.99	9.66	2.96	0.00	0.39	32.15	1.78	1.18	9.86	1.18	0.00	0.00	0.39	0.00	0.00	
34R-4, 64–66	407.94–407.95	5.980	3.38	0.00	26.27	0.00	0.70	4.55	0.53	0.00	0.18	51.66	1.23	1.05	11.21	0.00	0.00	0.00	0.18	0.00	0.00	
35R-4, 64–67	417.54–417.56	6.050	5.38	0.00	38.96	4.49	3.59	17.59	0.54	3.41	0.90	22.08	0.00	0.72	8.26	2.87	0.00	0.90	0.18	0.00	0.00	
36R-2, 64–66	424.24–424.25	6.100	2.98	0.00	27.06	1.54	3.84	9.02	0.00	1.54	0.58	28.79	0.00	1.15	18.23	7.10	0.19	0.00	2.11	0.38	0.00	
36R-6, 64–66	430.24–430.25	6.140	2.70	0.00	32.03	0.20	0.20	3.32	1.17	0.20	0.39	39.65	0.00	0.39	17.97	0.39	0.00	0.00	0.00	0.00	0.00	
37R-4, 54–56	436.74–436.75	6.180	5.21	0.00	23.96	0.99	1.39	14.46	0.40	5.74	1.78	24.75	0.00	1.39	18.81	7.13	0.00	0.00	0.00	0.00	0.20	
40R-2, 63–65	462.73–462.74	6.360	2.82	0.00	46.41	3.68	9.58	1.10	0.37	3.50	0.92	33.70	0.00	0.00	0.92	3.50	0.00	0.00	0.00	0.00	0.00	
42R-2, 64–66	482.14–482.15	6.500	2.10	2.26	35.89	0.70	4.01	7.67	0.00	2.79	7.49	25.26	0.00	0.52	9.06	3.66	0.00	0.00	1.39	0.00	0.00	
43R-5, 64–66	496.14–496.15	6.590	2.43	0.00	60.04	0.00	3.58	1.39	0.00	5.57	1.59	21.27	0.40	0.99	2.39	1.19	0.00	0.00	0.60	0.00	0.00	
47R-4, 66–68	533.16–533.17	6.850	3.42	0.00	28.71	0.00	3.71	4.49	0.00	16.21	6.64	18.75	0.00	0.59	18.55	2.34	0.00	0.00	0.00	0.00	0.00	
49R-2, 64–67	548.74–548.76	6.960	6.95	0.00	11.61	0.00	0.00	0.20	0.00	1.57	0.20	85.43	0.00	0.20	0.59	0.20	0.00	0.00	0.00	0.00	0.00	
50R-2, 54–57	558.94–558.96	7.030	9.67	0.00	5.59	0.00	0.00	3.39	0.80	0.00	0.00	90.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
51R-4, 64–66	571.74–571.75	7.120	4.78	2.12	48.46	1.35	5.38	15.00	0.00	4.04	2.88	12.69	0.00	2.69	4.04	2.69	0.00	0.00	0.00	0.00	0.00	
53R-2, 64–66	587.94–587.95	7.230	2.92	0.00	33.73	0.59	2.55	4.90	0.00	10.00	4.31	31.57	0.00	2.35	2.94	7.25	0.00	0.00	0.00	0.00	0.39	
55R-3, 63–65	608.73–608.74	7.530	0.50	0.00	69.17	0.00	0.00	6.32	0.59	4.74	0.00	11.66	0.00	1.19	0.00	1.38	1.19	0.59	0.00	0.00	0.00	
55R-4, 64–66	610.24–610.25	7.550	6.99	1.17	12.62	0.19	0.78	13.98	0.00	2.52	0.39	40.39	0.00	1.17	23.69	3.30	0.00	0.00	0.00	0.00	0.00	
55R-5, 64–66	611.74–611.75	7.570	1.84	0.00	29.42	0.00	0.00	2.38	0.00	20.92	0.00	45.07	0.00	0.00	0.00	1.02	0.68	0.00	0.00	0.00	0.00	0.00
55R-6, 64–66	613.24–613.25	7.590	7.00	0.00	19.92	0.00	1.17	13.28	0.98	4.49	1.95	47.66	0.00	1.76	2.73	6.05	0.00	0.00	0.00	0.00	0.00	
56R-1, 64–66	615.44–615.45	7.630	3.05	0.00	42.31	0.00	0.00	18.65	0.00	8.65	0.00	25.58	0.00	1.54	0.00	0.58	0.19	0.00	0.00	0.00	0.00	0.00
57R-2, 64–66	625.04–625.05	7.770	1.70	0.00	49.50	0.00	0.00	14.43	0.00	8.42	0.00	20.04	0.00	0.40	1.60	0.40	1.00	0.00	0.00	0.00	0.00	
57R-2, 64–66	626.54–626.55	7.790	3.13	0.38	41.44	0.19	2.66	25.67	3.80	3.61	1.14	7.22	0.00	3.23	7.41	1.71	0.00	0.00	0.00	0.00	0.19	
57R-3, 64–66	628.04–628.05	7.820	5.01	0.00	34.33	0.00	0.00	13.91	0.00	5.63	0.00	37.68	0.00	2.29	0.00	2.11	0.88	0.00	0.00	0.00	0.00	0.00
57R-4, 64–66	629.54–629.55	7.840	2.85	0.00	32.34	0.00	0.00	16.25	1.99	5.31	0.00	40.13	0.00	1.00	0.50	0.50	0.33	0.00	0.00	0.00	0.00	
57R-5, 65–67	631.05–631.06	7.860	3.95	3.20	41.73	2.26	5.45	13.16	2.26	8.46	0.00	11.84	0.00	2.82	4.89	1.88	0.00	0.00	0.00	0.00	0.00	
58R-1, 64–66	634.74–634.75	7.940	0.30	0.00	45.75	0.00	0.00	1.54	0.00	1.74	0.00	44.02	0.00	0.77	2.12	1.35	1.35	0.00	0.00	0.00	0.00	
59R-1, 64–66	644.34–644.35	8.190	0.44	0.00	22.29	0.00	0.00	0.76	0.00	0.95	0.00	63.05	0.00	0.38	3.43	1.33	3.24	0.57	0.00	0.00	0.00	
59R-2, 64–66	645.84–645.85	8.230	2.10	0.00	73.73	0.00	0.00	4.69	0.56	3.94	0.00	12.95	0.00	1.31	0.00	0.56	0.94	0.00	0.00	0.00	0.00	
59R-3, 64–66	647.34–647.35	8.270	5.36	0.00	21.40	0.00	4.73	17.23	0.57	3.98	1.89	30.87	0.00	0.00	11.93	7.39	0.00	0.00	0.00	0.00	0.00	
59R-4, 64–66	648.84–648.85	8.310	1.88	0.00	62.98	0.00	0.00	3.50	0.00	2.03	0.00	25.05	0.00	0.37	0.00	2.58	1.84	0.18	0.00	0.00	0.00	
59R-5, 64–66	650.34–650.35	8.350	0.60	5.13	37.28	1.97	6.31	12.23	0.00	7.89	0.20	8.48	0.00	1.18	8.48	5.33	5.13	0.00	0.00	0.00	0.00	
59R-6, 64–66	651.84–651.85	8.390	2.85	0.19	35.90	0.00	0.75	8.65	1.13	3.20	0.00	39.66	0.00	2.26	3.76	1.50	1.69	0.19	0.00	0.19	0.00	
60R-1, 64–66	654.04–654.05	8.450	1.58	0.00	15.47	0.00	1.74	17.99	0.97	1.35	0.19	14.70	0.00	0.00	41.78	4.26	0.97	0.00	0.00	0.00	0.00	
60R-2, 64–66	655.54–655.55	8.490	1.86	0.00	55.47	0.00	0.00	5.47	0.19	21.89	0.00	10.94	0.00	1.13	0.00	1.89	1.13	0.57	0.00	0.00	0.00	
60R-3, 64–66	657.04–657.05	8.530	0.63	0.00	61.83	0.00	0.00	1.65	0.00	15.96	0.37	11.01	0.00	0.55	3.12	0.92	1.10	2.39	0.00	0.00	0.00	
60R-4, 64–66	658.54–658.55	8.540	5.14	0.00	12.82	0.00	0.59	9.47	0.59	5.72	0.20	43.98	0.00	1.38	0.79	10.65	12.82	0.00	0.00	0.00	0.00	
60R-5, 64–66	660.04–660.05	8.560	1.07	0.00	38.11	0.00	0.00	4.53	0.00	5.66	0.00	45.66	0.00	0.94	0.00	1.70	1.51	0.57	0.00	0.00	0.00	
60R-6, 64–66	661.54–661.55	8.570	4.66	0.59	25.20	1.18	4.33	9.65	0.00	5.31	1.97	42.72	0.00	0.98	5.31	3.94	0.00	0.00	0.00	0.00	0.00	
61R-1, 63–65	663.63–663.64	8.590	2.82	0.19	11.66	0.00	0.00	2.10	0.00	24.09	0.00	52.01	0.00	0.57	3.06	0.96	3.06	0.19	0.00	0.00	0.00	
61R-2, 62–65	665.12–665.14	8.600	4.32	0.19	11.83	0.00	0.00	0.76	0.00	0.00	0.00	82.44	0.00	0.57	0.76	1.94	0.00	0.00	0.00	0.00	0.00	
61R-3, 64–66	666.64–666.65	8.610	4.71	0.57	15.27	0.00	2.48	4.20	1.34	3.82	0.38	48.28	0.00	0.00	2.86	6.30	13.17	0.00	0.00	0.00	0.00	
61R-4, 64–66	668.14–668.15	8.630	5.64	0.00	12.50	0.00	0.00	3.83	0.00	6.05	0.00	73.19	0.00	0.60	0.00	0.00	2.22	0.00	0.00	0.00	0.00	
61R-5, 64–66	669.64–669.65	8.640	2.94	0.00	9.11	0.00	0.79	6.73	0.00	3.17	1.19	63.76	0.00	0.40	8.32	6.53	0.00	0.00	0.00	0.00	0.00	
62R-1, 63–66	673.33–673.35	8.670	4.71	0.00	11.42	0.00	0.00	6.93	0.94	0.00	0.00	48.88	0.00	0.00	25.66	2.25	1.87	0.00	0.00	0.00	0.00	
62R-2, 63–66	674.83–674.85	8.680	5.56	0.00	8.47	0.00	0.00	8.29	0.00	3.53	0.00	75.31	0.00	0.35	0.53	0.88	1.94	0.00	0.00	0.00	0.00	
62R-3, 63–67	676.33–676.35	8.700	0.74	0.00	80.04	0.00	0.00	0.96	1.54	0.00	10.36	0.00	0.58	0.00	2.50	0.00	0.96	0.00	0.00	0.00	0.00	
62R-4, 63–66	677.83–677.85	8.710	2.49	0.00	34.35	0.00	0.00	2.52	0.00	7.73	0.00	48.38	0.00	1.44	0.00	1.44	1.08	0.00	0.00</td			

Table 4 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	> 63 µm (wt%)	Coal fragments (grain%)	Quartz, angular to subrounded (grain%)	Quartz, rounded (grain%)	Feldspar (grain%)	Muscovite mica (grain%)	Biotite mica (grain%)	Rock fragments, metamorphic (grain%)	Rock fragments, igneous (grain%)	Volcanic glass (grain%)	Glauconite (grain%)	Pyrite (grain%)	Other grains (grain%)	Benthic forams., agglutinated (grain%)	Planktonic forams. (grain%)	Radiolarians (grain%)	Diatoms (grain%)	Flagellates (grain%)	Sponge spicules (grain%)
62R-7, 64-67	682.34–682.36	8.750	0.52	0.00	52.41	0.00	1.96	0.00	3.39	0.00	34.58	0.00	0.36	0.00	1.43	1.43	1.60	0.00	0.00	0.00	0.00
63R-2, 63-65	684.43–684.44	8.770	3.59	0.00	24.40	0.00	0.00	10.71	0.00	2.18	0.00	33.93	0.00	0.00	14.09	3.57	10.12	0.00	0.00	0.00	0.00
64R-1, 63-65	692.63–692.64	8.840	1.96	0.00	40.47	0.00	0.00	2.53	0.00	1.36	0.00	46.30	0.00	0.00	2.72	1.75	0.58	1.95	0.00	0.00	0.00
64R-2, 63-65	694.13–694.14	8.850	4.51	0.19	11.98	0.00	0.00	0.00	0.00	2.28	0.00	76.24	0.00	0.00	4.37	1.90	1.33	0.57	0.00	0.00	0.00
64R-3, 63-65	695.63–695.64	8.870	0.58	0.00	36.80	0.00	0.00	5.97	0.00	3.47	0.00	39.11	0.00	0.58	4.05	1.35	2.50	1.93	0.00	0.00	0.00
64R-4, 63-65	697.13–697.14	8.880	1.50	0.00	18.40	0.00	1.20	4.20	0.60	14.00	1.60	24.60	0.00	0.00	19.00	10.80	0.80	3.80	1.00	0.00	0.00
65R-1, 65-67	702.25–702.26	8.940	5.21	0.00	31.47	0.00	0.00	5.32	0.00	50.57	0.00	8.48	0.00	0.29	0.29	1.29	0.29	1.15	0.00	0.00	0.00
65R-2, 64-66	703.74–703.75	8.960	1.25	0.00	15.59	0.00	0.00	0.81	0.00	2.63	0.00	71.66	0.00	0.00	1.01	3.24	2.43	0.00	0.00	0.00	0.00
65R-3, 65-67	705.25–705.26	8.970	6.77	0.00	6.50	0.00	0.00	19.33	0.70	3.16	0.00	61.16	0.00	1.41	3.16	0.35	1.58	0.53	0.00	0.00	0.00
65R-4, 64-66	706.74–706.75	8.990	1.39	0.00	53.09	0.00	3.00	2.12	0.00	0.71	0.18	0.88	0.00	0.35	24.69	1.41	13.58	0.00	0.00	0.00	0.00
65R-6, 62-64	709.72–709.73	9.020	1.67	0.00	63.05	0.00	0.00	10.48	0.74	2.39	0.18	10.85	0.00	1.29	0.37	1.84	2.76	3.31	0.00	0.00	0.00
66R-1, 64-66	711.74–711.75	9.040	10.95	0.00	10.65	0.00	0.95	3.99	0.00	5.13	0.00	73.00	0.00	1.14	1.71	1.52	0.76	0.19	0.00	0.00	0.00
67R-1, 67-69	721.47–721.48	9.150	1.36	0.00	37.32	0.00	0.84	1.26	0.00	0.63	0.42	1.47	0.00	0.00	27.46	0.63	29.98	0.00	0.00	0.00	0.00
67R-2, 67-69	722.97–722.98	9.160	2.50	0.00	29.68	0.00	0.00	1.85	0.00	40.81	0.00	21.59	0.00	1.18	0.17	1.01	2.02	1.35	0.00	0.00	0.00
67R-4, 63-65	725.93–725.94	9.200	1.08	0.17	39.69	0.87	0.52	0.69	0.00	17.16	0.00	28.08	0.00	2.08	2.95	1.73	1.39	1.73	0.00	0.00	0.00
67R-5, 63-65	727.43–727.44	9.210	1.38	0.00	39.46	0.00	0.00	8.03	0.00	5.18	0.00	37.46	0.00	0.00	0.00	3.68	4.01	1.67	0.00	0.00	0.00
67R-6, 63-65	728.93–728.94	9.230	16.20	0.00	37.04	0.84	0.84	14.48	1.01	2.36	0.84	26.77	0.00	0.84	12.96	0.51	2.19	0.00	0.00	0.00	0.17
68R-1, 64-66	731.04–731.05	9.250	1.21	0.00	37.68	0.00	1.26	8.48	0.00	24.96	0.00	17.11	0.00	2.67	2.20	1.26	0.94	0.31	0.00	0.00	0.00
68R-2, 64-66	732.54–732.55	9.270	6.29	0.00	9.98	0.00	0.00	45.31	1.00	3.59	0.00	29.34	0.00	0.40	2.40	3.19	2.20	0.60	0.00	0.00	0.00
68R-3, 64-66	734.04–734.05	9.280	6.04	0.00	29.80	0.00	2.40	32.80	9.00	4.60	0.60	8.80	0.00	0.00	7.60	0.80	3.60	0.00	0.00	0.00	0.00
69R-1, 64-66	740.64–740.65	9.360	3.97	0.00	39.50	0.00	0.00	16.34	0.00	13.82	0.00	19.21	0.00	1.44	2.15	0.54	2.87	0.36	0.00	0.00	0.00
69R-2, 64-66	742.14–742.15	9.370	1.39	0.18	43.23	1.93	0.70	11.42	0.00	7.03	0.00	20.21	0.00	0.88	3.87	2.64	1.93	2.46	0.00	0.00	0.00
69R-3, 64-66	743.64–743.65	9.390	6.22	0.00	11.31	0.00	0.00	29.74	0.73	5.11	0.00	43.07	0.00	0.36	0.36	1.28	1.46	1.09	0.00	0.00	0.00
69R-4, 64-66	745.14–745.15	9.400	4.71	0.00	26.74	0.00	1.43	5.88	1.07	0.00	0.00	48.84	1.07	2.50	9.80	1.96	0.00	0.71	0.00	0.00	0.00
69R-6, 64-66	748.14–748.15	9.440	8.00	0.00	25.29	0.00	1.33	38.21	2.47	5.89	0.00	17.68	0.00	1.52	2.28	2.47	0.76	0.57	0.00	0.00	0.00
70R-1, 65-67	750.25–750.26	9.460	7.17	0.00	27.03	0.00	0.00	16.22	1.98	9.19	0.00	36.40	0.00	2.34	2.70	1.80	1.26	0.18	0.00	0.00	0.00
70R-3, 64-66	753.24–753.25	9.490	11.19	0.00	21.11	0.00	0.74	12.04	4.07	0.00	0.00	52.96	0.74	1.67	3.52	3.15	0.00	0.00	0.00	0.00	0.00
70R-4, 64-67	754.74–754.76	9.510	9.50	0.19	40.31	1.34	1.73	19.00	1.54	5.57	0.00	18.23	0.00	1.92	3.26	4.03	1.15	0.77	0.00	0.00	0.00
70R-6, 65-67	757.75–757.76	9.540	5.69	0.00	34.76	0.00	1.30	7.43	1.12	17.66	0.00	16.73	0.00	4.28	4.28	4.46	1.49	0.37	0.00	0.00	0.00
71R-2, 64-66	761.44–761.45	9.580	7.59	0.00	6.39	0.00	0.00	15.51	3.47	0.00	0.73	54.56	0.91	3.65	4.56	8.21	2.01	0.00	0.00	0.00	0.00
71R-3, 64-66	762.94–762.95	9.600	1.55	0.00	63.92	0.00	0.00	3.53	0.39	11.96	0.00	2.35	0.00	4.31	4.90	3.33	0.59	1.37	0.00	0.00	0.00
71R-6, 64-66	767.44–767.45	9.670	6.42	0.00	45.87	0.00	0.59	12.40	1.38	11.61	0.00	14.37	0.00	2.56	4.92	3.35	0.59	0.39	0.00	0.00	0.00
72R-2, 64-66	771.14–771.15	9.730	8.84	0.00	13.77	0.00	0.19	13.40	0.57	0.00	0.00	53.02	0.00	1.51	13.02	4.53	0.00	0.00	0.00	0.00	0.00
72R-3, 62-64	772.62–772.63	9.760	10.10	0.00	12.77	0.00	0.00	11.80	0.58	5.22	0.00	61.51	0.00	1.55	0.00	2.32	0.97	0.39	0.00	0.00	0.00
72R-5, 64-66	775.64–775.65	9.810	8.10	0.55	40.84	0.00	2.38	25.46	2.20	6.96	0.00	10.26	0.00	3.11	4.21	2.20	0.55	0.55	0.00	0.00	0.00
73R-1, 65-67	779.35–779.36	9.870	2.57	0.00	14.62	0.00	0.00	1.97	0.00	0.00	0.12	77.27	0.49	1.35	0.86	2.95	0.37	0.00	0.00	0.00	0.00
73R-3, 64-66	782.34–782.35	9.920	11.73	0.38	50.48	0.76	2.68	14.72	1.34	7.65	0.00	6.12	0.00	4.97	2.49	1.53	2.10	0.96	0.00	0.00	0.00
73R-4, 64-66	783.84–783.85	9.940	12.72	0.37	51.48	1.11	2.96	18.15	5.19	4.63	0.00	1.85	0.00	4.81	3.70	1.48	1.48	0.93	0.00	0.00	0.00
73R-6, 65-67	786.85–786.86	9.990	2.06	0.00	48.89	0.00	0.89	1.48	0.59	0.00	0.00	10.81	0.74	2.67	26.52	5.19	2.22	0.00	0.00	0.00	0.00
74R-2, 64-66	790.44–790.45	10.050	6.81	0.00	18.27	0.00	1.77	48.53	8.45	5.50	0.00	8.06	0.00	1.18	0.00	3.54	1.18	1.18	0.00	0.00	0.00
74R-3, 64-66	791.94–791.95	10.070	4.14	0.50	38.84	1.32	0.66	7.44	0.00	14.38	0.00	26.12	0.00	1.16	0.50	5.12	0.50	0.17	0.00	0.00	0.00
74R-5, 64-66	794.94–794.95	10.120	8.73	0.00	28.37	0.00	0.00	19.15	2.13	0.00	0.00	17.73	0.71	4.26	14.18	12.41	1.06	0.00	0.00	0.00	0.00
75R-1, 64-66	798.64–798.65	10.180	1.93	0.60	18.06	1.19	0.79	12.90	1.39	7.34	0.99	42.26	0.00	2.18	0.00	6.15	0.40	1.19	0.00	0.00	0.00
75R-3, 65-67	801.65–801.66	10.230	3.40	0.00	11.95	0.00	0.00	6.25	0.00	12.87	0.00	63.60	0.00	1.10	0.00	1.29	1.65	0.74	0.00	0.00	0.00
75R-4, 65-67	803.15–803.16	10.260	1.51	0.00	21.62	0.00	0.00	1.08	0.00	6.85	0.00	61.98	0.00	2.16	0.36	1.80	2.34	0.72	0.00	0.00	0.00
75R-5, 65-67	804.65–804.66	10.280	8.78	0.00	43.35	0.00	1.14	11.03	2.66	0.00	0.00	25.10	1.52	2.47	5.51	4.94	2.28	0.00	0.00	0.00	0.00
75R-7, 64-66	807.64–807.65	10.330	2.55	0.51	39.46	1.19	3.23	9.86	1.19	8.67	0.17	15.65	0.00	3.91	3.0						

Table 4 (continued).

Core, section, interval (cm)	Depth (mbsf)	Age (m.y.)	> 63 µm (wt%)	Coal fragments (grain%)	Quartz, angular to subrounded (grain%)	Feldspar (grain%)	Muscovite mica (grain%)	Biotite mica (grain%)	Rock fragments, metamorphic (grain%)	Rock fragments, igneous (grain%)	Rock fragments, sedimentary (grain%)	Volcanic glass (grain%)	Glaucocrite (grain%)	Pyrite (grain%)	Other grains (grain%)	Benthic forams., agglutinated (grain%)	Benthic forams., calcareous (grain%)	Planktonic forams. (grain%)	Radiolarians (grain%)	Flagellates (grain%)	Sponge spicules (grain%)		
78R-2, 67–69	829.17–829.18	10.680	7.30	0.00	23.03	0.00	4.92	0.20	0.00	0.98	43.31	1.77	3.94	8.66	8.46	4.53	0.20	0.00	0.00	0.00	0.00		
80R-1, 63–65	846.83–846.84	11.080	8.44	0.19	48.69	0.56	1.50	21.35	0.94	3.93	0.00	8.99	0.00	4.12	3.93	0.56	2.62	2.06	0.00	0.00	0.00	0.00	
80R-2, 63–65	848.33–848.34	11.130	2.51	0.19	24.86	0.75	3.39	6.40	0.56	22.60	0.00	17.70	0.00	2.07	6.03	8.66	2.45	3.01	0.00	0.00	0.00	0.00	
80R-4, 64–66	851.34–851.35	11.220	1.13	0.00	32.20	0.00	1.02	16.78	1.25	0.00	1.70	34.92	1.36	1.81	1.13	3.40	4.31	0.11	0.00	0.00	0.00	0.00	
80R-6, 64–66	854.34–854.35	11.310	9.56	0.38	41.13	0.00	1.32	15.28	1.13	6.42	0.00	22.64	0.00	2.26	1.51	2.26	2.45	1.32	0.00	0.00	0.00	0.00	
81R-2, 65–67	858.05–858.06	11.420	11.12	0.00	23.89	0.00	0.96	8.67	0.00	1.93	0.00	52.41	0.00	1.35	6.17	0.96	1.35	0.77	0.00	0.00	0.00	0.00	
81R-4, 64–66	861.04–861.05	11.510	9.39	0.00	35.70	0.00	1.73	5.37	1.34	0.00	0.00	38.20	1.54	2.50	6.33	5.76	1.15	0.38	0.00	0.00	0.00	0.00	
82R-2, 64–66	867.64–867.65	11.710	6.11	0.20	28.46	0.00	0.00	28.66	1.19	4.35	0.00	27.67	0.00	2.17	0.00	2.57	2.37	1.38	0.00	0.00	0.00	0.00	
83R-2, 64–66	877.24–877.25	11.990	2.72	0.15	37.92	0.00	0.61	9.63	1.07	11.62	0.00	24.46	0.00	2.14	4.28	1.99	2.14	0.92	0.00	0.00	0.00	0.00	
83R-4, 64–66	880.24–880.25	12.080	5.28	0.27	44.88	0.68	1.64	8.05	1.09	9.96	0.00	18.28	0.00	4.37	3.14	1.64	1.91	1.36	0.00	0.00	0.00	0.00	
84R-2, 64–66	886.54–886.95	12.280	3.77	0.00	24.81	0.00	0.00	4.23	0.19	0.00	0.00	28.27	0.00	5.19	7.12	28.65	0.77	0.77	0.00	0.00	0.00	0.00	
84R-4, 61–63	889.91–889.92	12.370	8.01	0.35	33.51	0.00	0.00	13.26	1.22	6.98	0.00	34.73	0.00	1.05	2.97	2.09	1.40	0.70	0.00	0.00	0.00	0.00	
85R-2, 64–66	896.54–896.55	12.570	2.10	0.18	22.26	0.00	0.18	4.77	0.00	15.19	0.00	42.76	0.00	2.12	4.59	2.83	2.65	0.71	0.00	0.00	0.00	0.00	
86R-2, 64–66	906.24–906.25	12.860	6.84	0.00	47.96	0.00	1.53	4.93	0.17	20.07	0.00	13.10	0.00	2.38	1.87	2.72	1.02	0.85	0.00	0.00	0.00	0.00	
87R-1, 64–66	914.44–914.45	13.110	8.81	0.00	30.32	0.00	0.56	2.64	0.19	0.00	0.00	57.44	0.19	2.07	2.82	1.13	2.26	0.38	0.00	0.00	0.00	0.00	
88R-1, 64–66	924.04–924.05	13.390	14.31	0.21	39.48	0.86	6.22	0.00	1.29	4.29	0.00	35.84	0.00	1.29	5.36	2.79	0.00	0.21	0.00	0.00	0.00	0.00	
88R-2, 64–66	925.54–925.55	13.440	7.25	0.00	18.85	0.00	0.00	2.31	0.00	8.27	0.58	52.31	0.00	3.27	5.58	4.23	2.50	0.19	0.00	0.00	0.00	0.00	
89R-2, 74–75	935.34–935.35	13.730	12.87	0.00	26.40	0.00	10.21	24.86	2.31	3.47	0.00	13.87	0.00	7.13	5.01	3.85	0.00	0.00	0.00	0.00	0.00	0.00	
90R-2, 64–66	944.94–944.95	14.020	55.24	0.00	83.07	0.78	1.36	5.06	0.97	0.78	0.00	5.84	0.00	1.36	0.19	0.19	1.17	0.00	0.00	0.00	0.00	0.00	
91R-2, 67–68	954.57–954.58	14.310	10.72	0.00	23.38	0.00	3.04	3.80	0.00	16.35	0.00	46.58	0.00	0.76	1.52	1.33	0.00	0.00	0.00	0.00	0.00	0.00	
92R-1, 64–66	962.74–962.75	14.550	11.43	0.18	72.64	0.00	1.27	13.41	0.54	1.99	0.00	3.99	0.00	1.27	0.00	2.90	0.00	0.00	0.00	0.00	0.00	0.00	
92R-2, 64–66	964.24–964.25	14.600	11.94	0.00	17.25	0.00	0.00	8.07	1.83	0.00	0.00	64.22	0.73	1.28	4.22	1.65	0.55	0.18	0.00	0.00	0.00	0.00	
93R-1, 64–66	972.34–972.35	14.840	12.74	0.00	28.65	0.00	0.97	9.36	0.58	0.00	0.00	50.49	0.00	1.36	1.36	2.53	0.39	0.00	0.00	0.00	0.00	0.00	
94R-1, 64–66	981.94–981.95	15.130	1.98	0.00	25.80	0.00	0.40	2.60	0.20	39.20	0.00	23.00	0.00	1.20	3.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	
94R-2, 64–66	983.44–983.45	15.170	8.20	0.00	19.48	0.00	0.17	12.00	2.43	0.00	0.00	57.22	1.22	2.43	3.30	0.87	0.70	0.17	0.00	0.00	0.00	0.00	
96R-1, 65–67	1001.05–1001.06	15.700	12.05	0.00	21.43	0.00	1.16	5.98	0.00	4.63	0.00	53.86	0.00	1.93	4.83	1.93	1.16	0.19	0.00	0.00	0.00	0.00	
98R-1, 66–68	1020.36–1020.37	16.280	7.49	0.00	7.74	0.00	0.00	7.74	1.55	0.19	0.00	71.95	0.77	0.77	1.55	0.77	5.61	1.16	0.19	0.00	0.00	0.00	0.00
99R-1, 64–66	1029.84–1029.85	16.560	6.48	0.00	30.88	0.00	0.00	11.58	0.88	6.14	0.35	35.96	0.00	2.98	2.98	4.21	1.40	0.88	0.00	0.00	0.00	0.00	
100R-1, 65–67	1039.45–1039.46	16.850	2.12	0.00	41.00	0.00	0.96	10.77	0.80	1.29	0.00	36.98	0.16	3.70	0.32	2.25	0.00	0.00	0.00	0.00	0.00	0.00	
101R-2, 66–68	1050.56–1050.57	17.180	8.68	0.38	55.98	0.00	1.90	21.06	1.52	3.98	0.00	2.66	0.00	6.26	2.28	2.09	0.00	0.00	0.00	0.00	0.00	0.00	
102R-1, 56–58	1053.26–1053.27	17.260	8.13	0.00	30.34	0.00	1.14	23.93	4.27	0.28	1.00	27.78	5.13	2.28	0.43	3.42	0.00	0.00	0.00	0.00	0.00	0.00	
102R-2, 69–71	1054.89–1054.90	17.310	6.79	0.00	60.84	0.00	1.15	13.63	0.58	6.33	0.00	5.37	0.00	7.10	1.73	1.54	0.00	0.00	0.00	0.00	0.00	0.00	
102R-4, 65–67	1057.85–1057.86	17.400	15.00	0.00	38.85	0.00	1.78	22.57	4.10	0.00	0.00	21.75	6.98	1.78	0.41	1.78	0.00	0.00	0.00	0.00	0.00	0.00	
103R-1, 64–66	1058.64–1058.65	17.420	13.94	0.20	14.20	0.00	10.80	57.00	3.80	6.20	0.00	4.00	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
103R-3, 64–66	1061.64–1061.65	17.510	4.81	0.00	3.29	0.00	1.57	24.32	0.72	19.89	15.16	25.04	2.58	2.15	1.00	2.86	0.72	0.00	0.00	0.00	0.00	0.00	

Table 5. Age/depth fixes for Sites 908 and 909.

Site	Depth (mbsf)	Age (Ma)	Index
908	0.00	0.00	
	34.45	0.78	Paleomagnetic data
	48.15	0.98	Paleomagnetic data
	55.85	1.05	Paleomagnetic data
	59.00	1.76	Paleomagnetic data
	60.00	1.98	Paleomagnetic data
	95.30	2.60	Paleomagnetic data
	113.00	3.05	Paleomagnetic data
	113.50	3.13	Paleomagnetic data
	117.00	3.22	Paleomagnetic data
	118.00	3.33	Paleomagnetic data
	121.75	3.55	Paleomagnetic data
	130.00	4.03	Paleomagnetic data
	164.20	5.40	Paleomagnetic data
909	0.00	0.00	
	36.60	0.78	Paleomagnetic data
	44.30	0.98	Paleomagnetic data
	47.10	1.05	Paleomagnetic data
	181.75	2.60	Paleomagnetic data
	247.00	3.55	Paleomagnetic data
	295.00	4.27	Paleomagnetic data
	301.15	4.43	Paleomagnetic data
	313.75	4.61	Paleomagnetic data
	318.25	4.69	Paleomagnetic data
	338.85	4.81	Paleomagnetic data
	351.05	5.05	Paleomagnetic data
	368.00	5.70	Paleomagnetic data
	590.00	7.25	Paleomagnetic data
	633.00	7.89	Paleomagnetic data
	657.00	8.53	Paleomagnetic data
	695.00	8.86	Paleomagnetic data
	762.40	9.59	Paleomagnetic data
	838.50	10.83	Paleomagnetic data
	1016.15	16.15	Biostratigraphy (Hull, this volume)

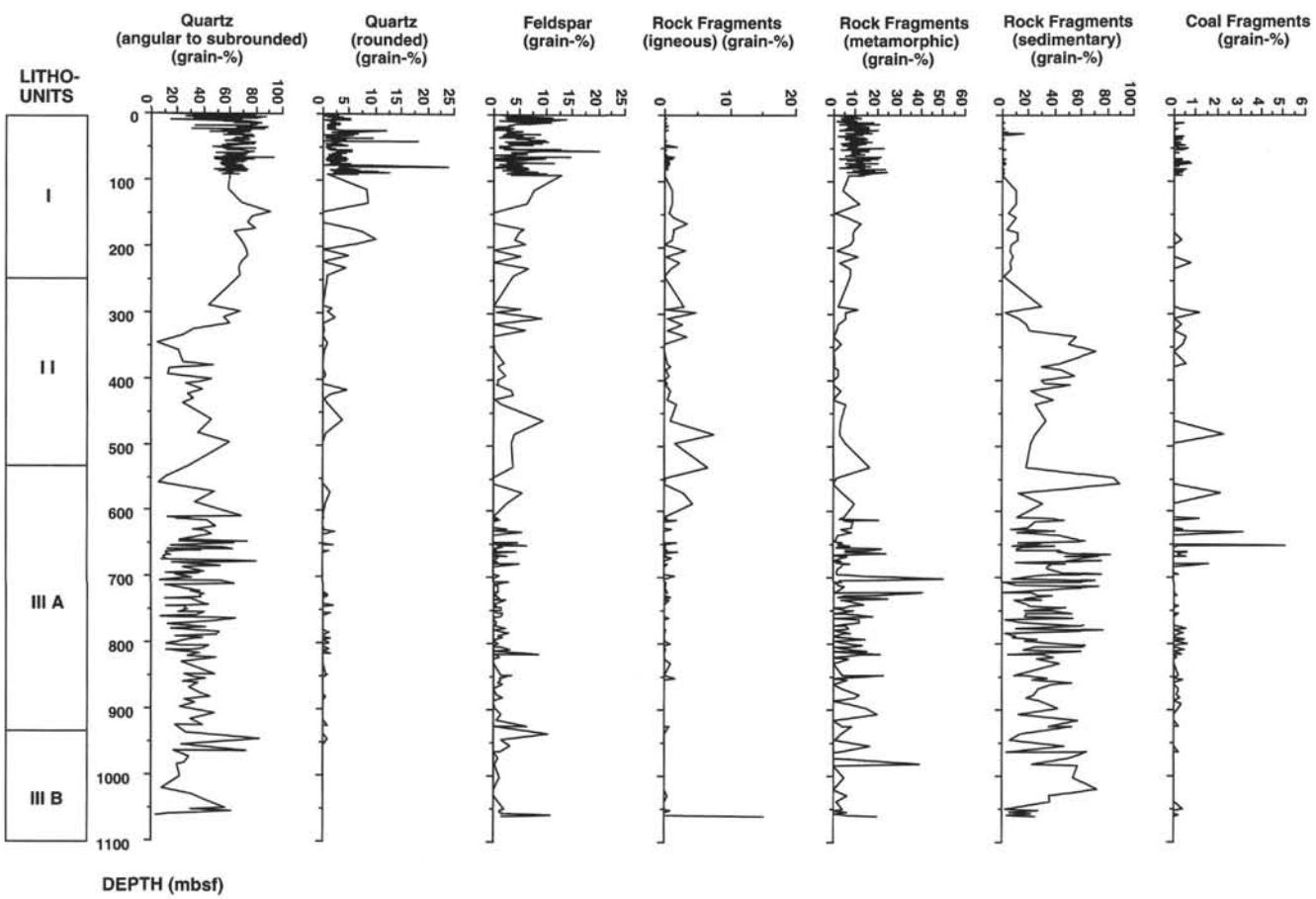


Figure 8. Coarse-fraction terrigenous components vs. depth at Site 909.

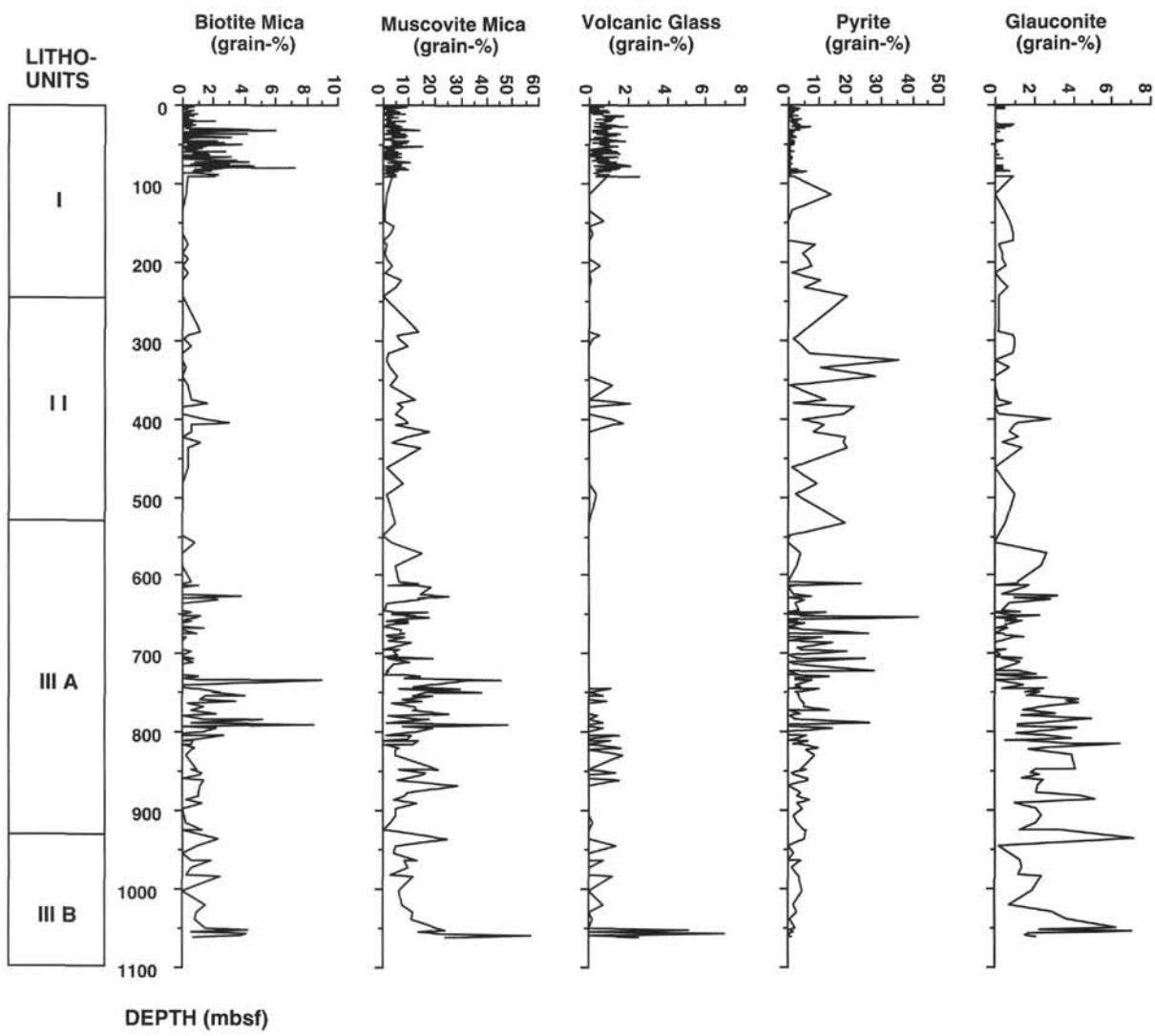


Figure 9. Coarse-fraction terrigenous/volcanic and authigenic components vs. depth at Site 909.

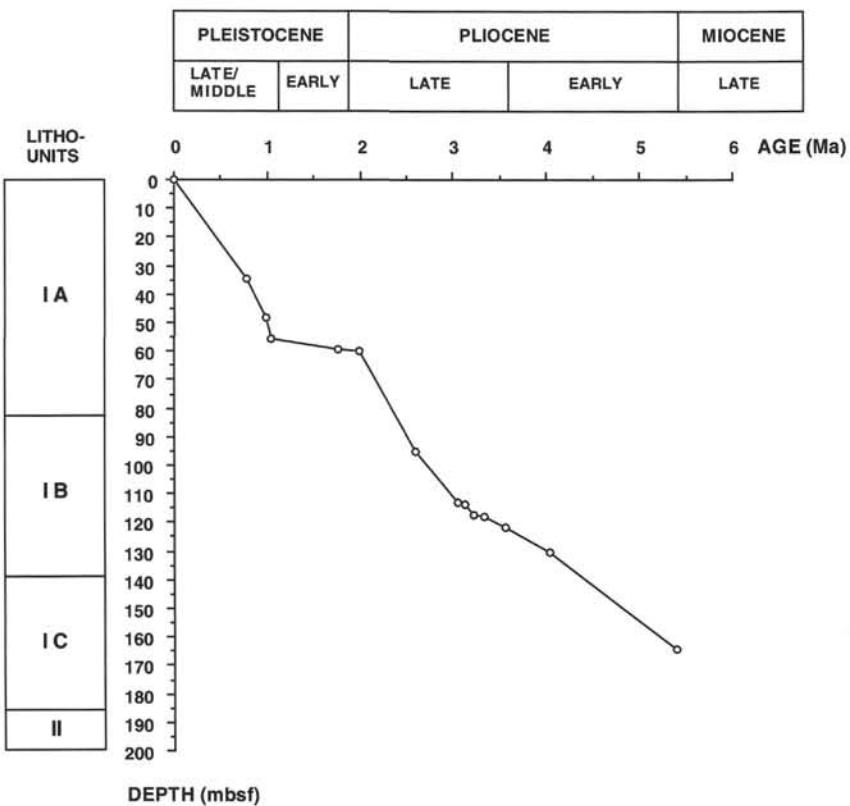


Figure 10. Site 908 age/depth model.

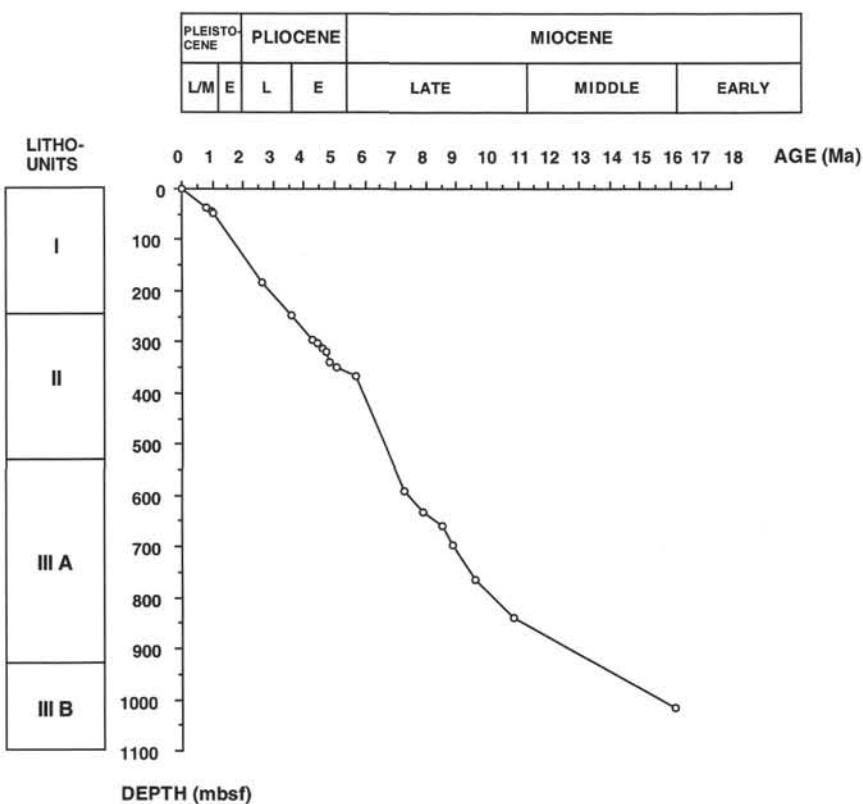
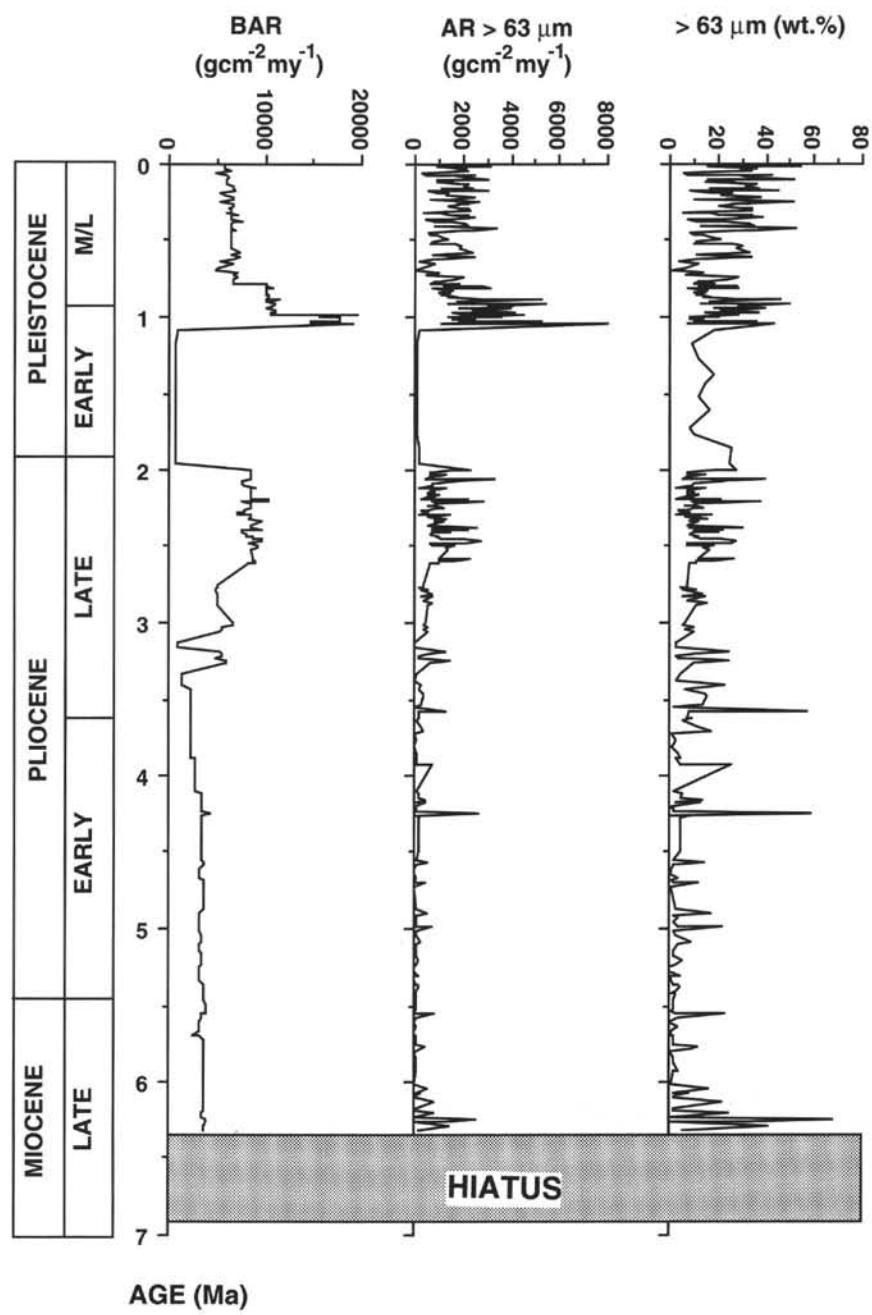


Figure 11. Site 909 age/depth model.

Figure 12. Accumulation rates of bulk sediment, the $>63\text{-}\mu\text{m}$ fraction, and $>63\text{ }\mu\text{m}$ vs. age at Site 908.

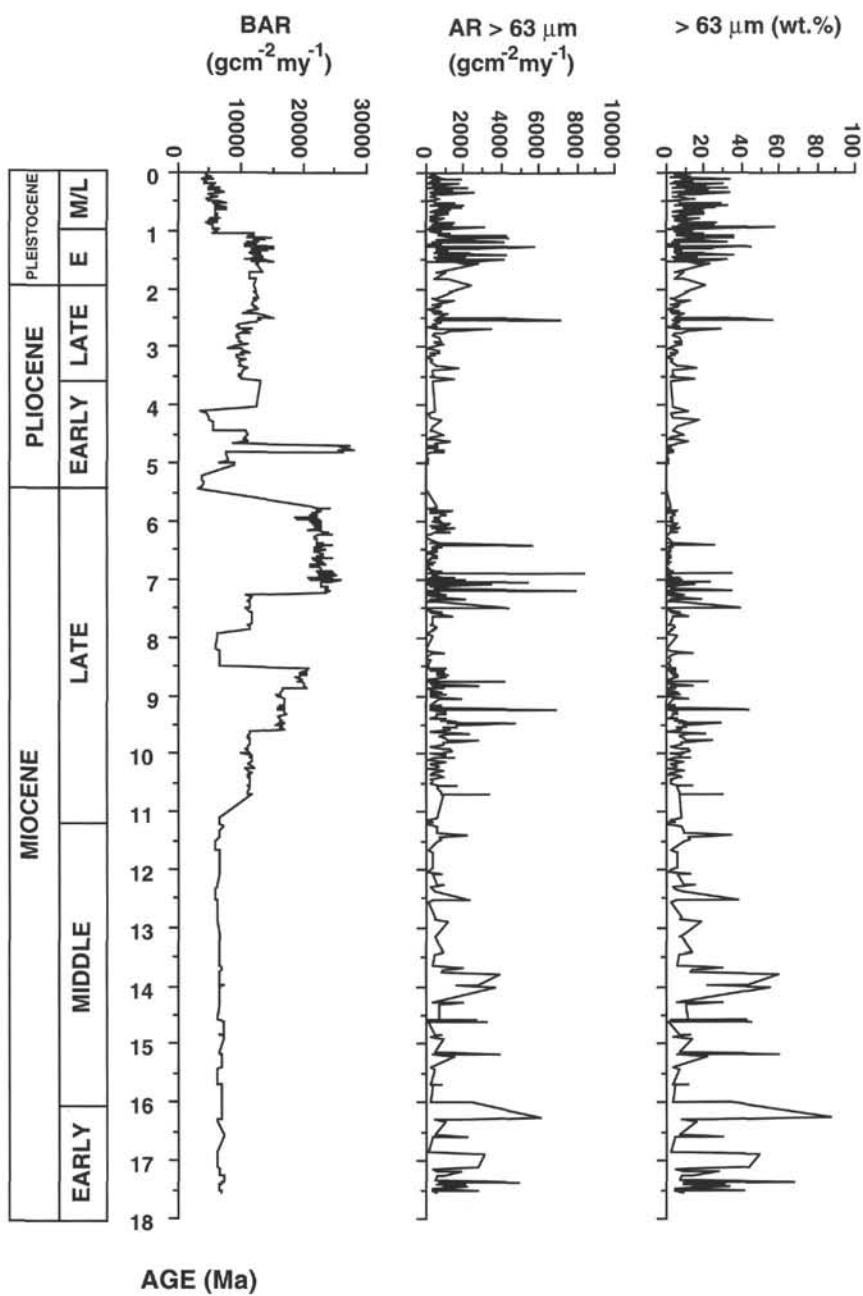
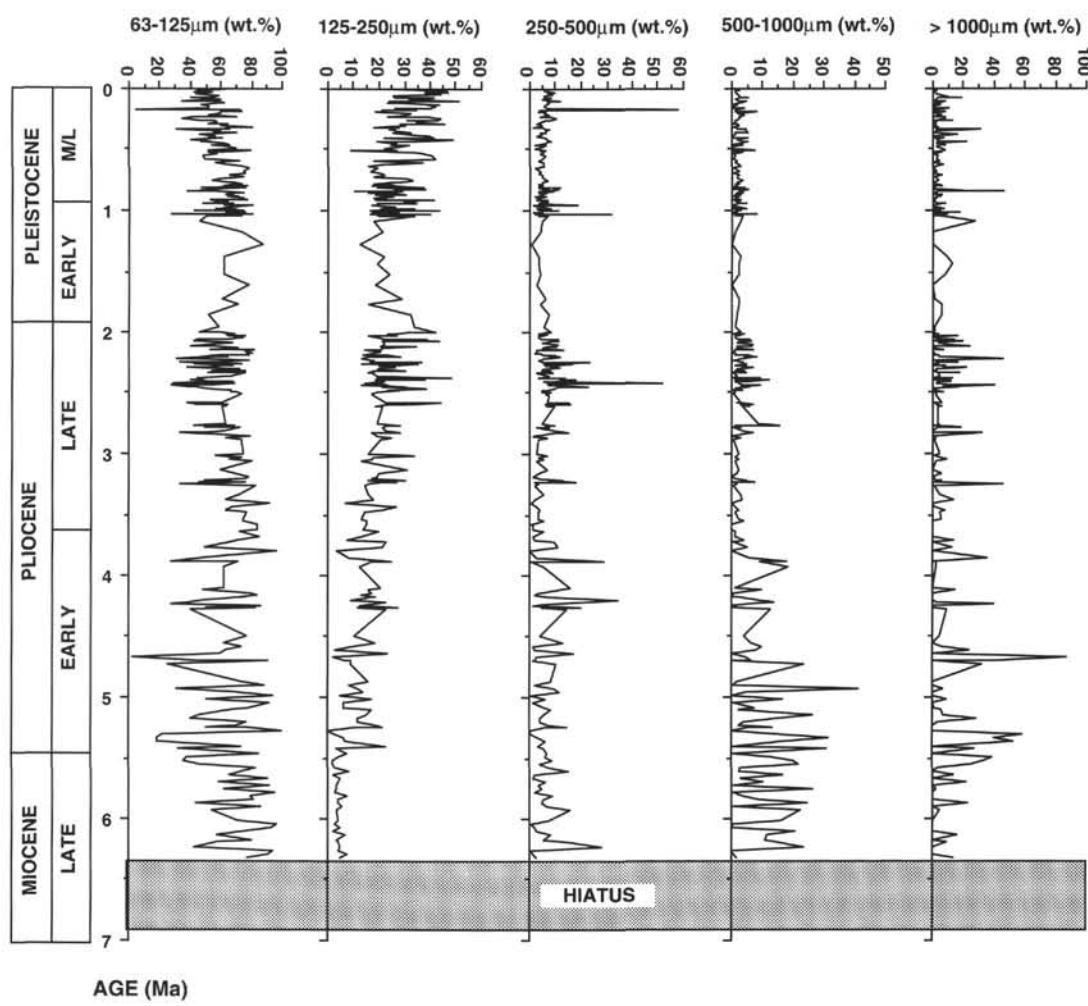


Figure 13. Accumulation rates of bulk sediment, the >63- μm fraction, and >63 μm vs. age at Site 909.

Figure 14. Distribution of >63- μm grain-size subfractions vs. age at Site 908.

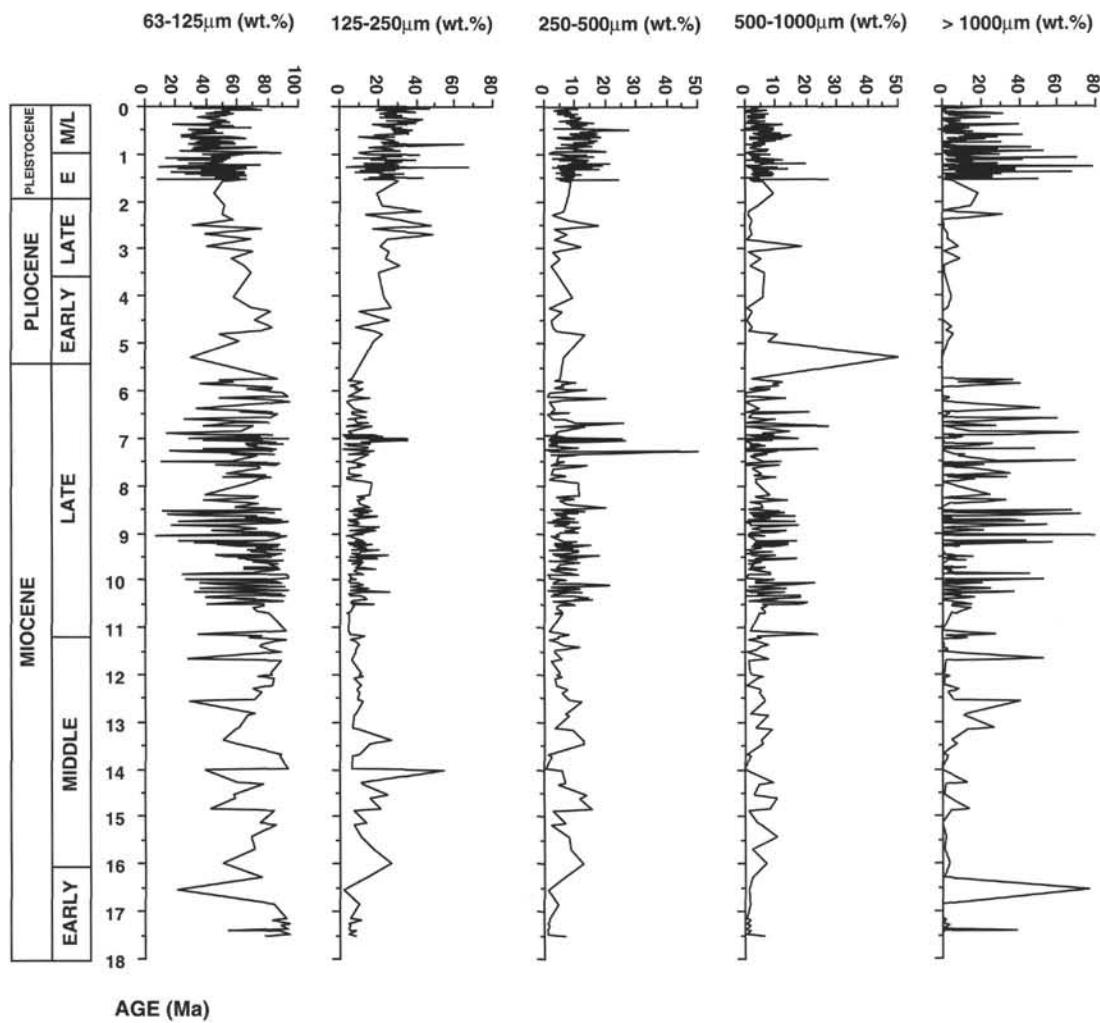


Figure 15. Distribution of >63- μ m grain-size subfractions vs. age at Site 909.

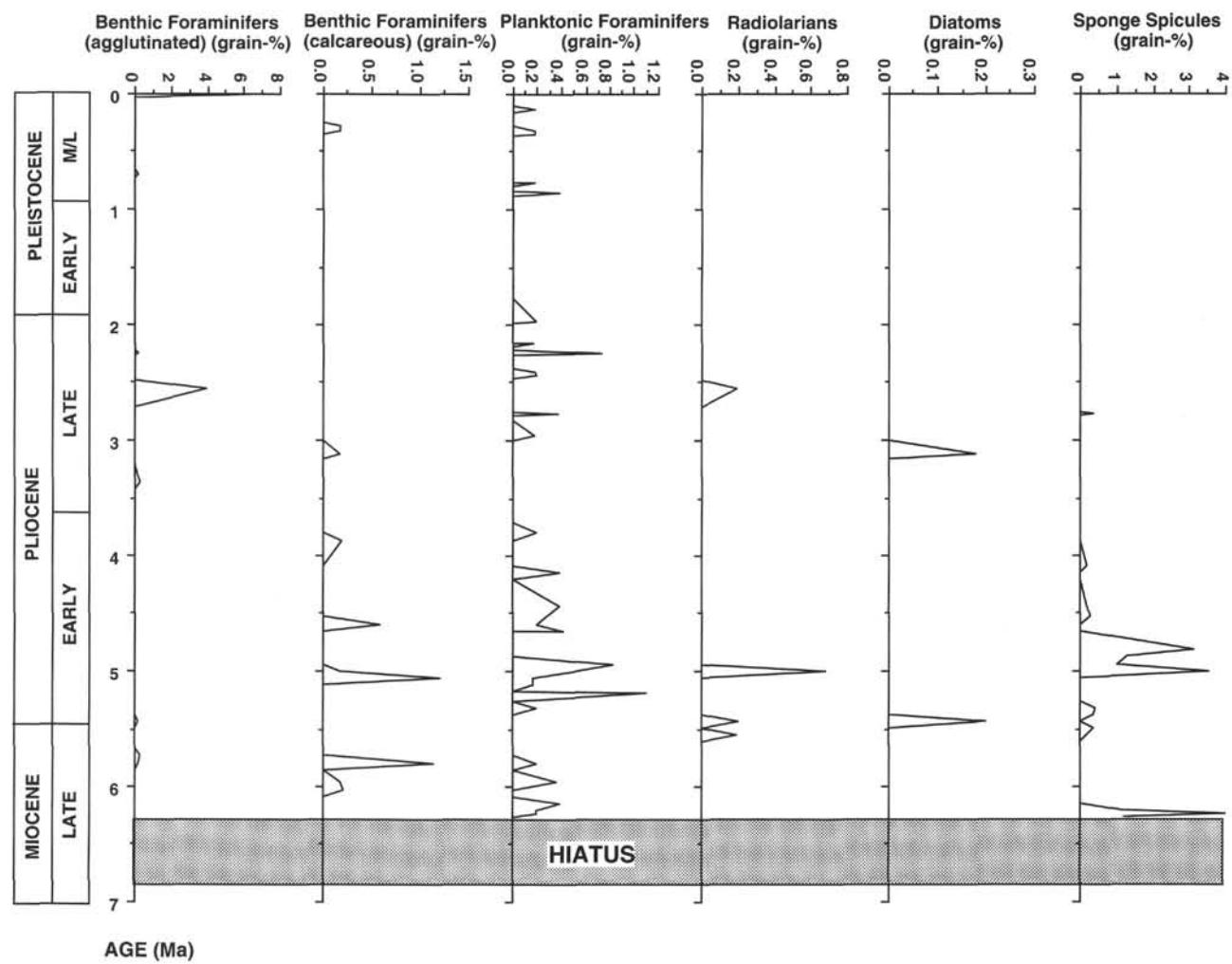


Figure 16. Coarse-fraction biogenic components vs. age at Site 908.

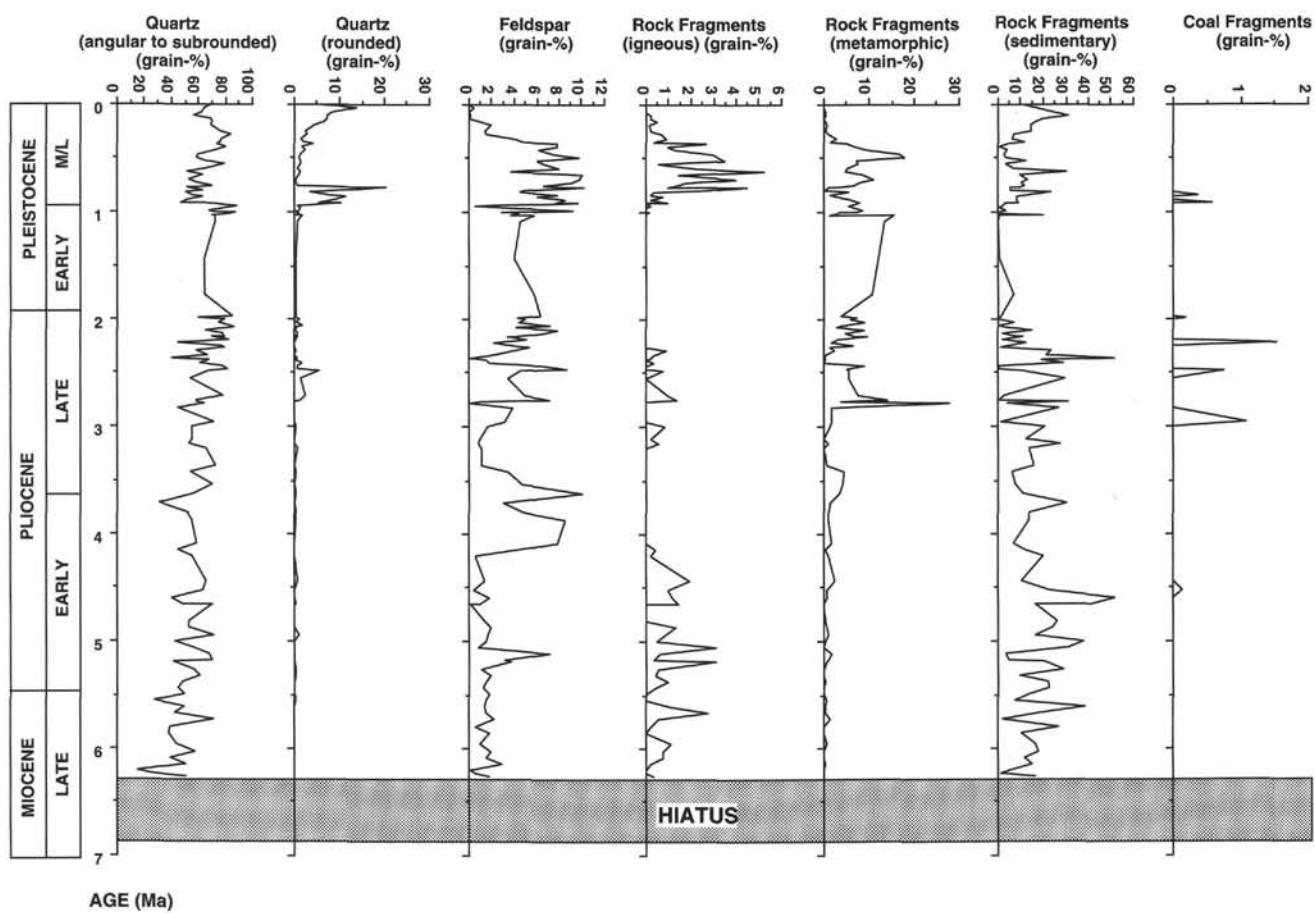


Figure 17. Coarse-fraction terrigenous components vs. age at Site 908.

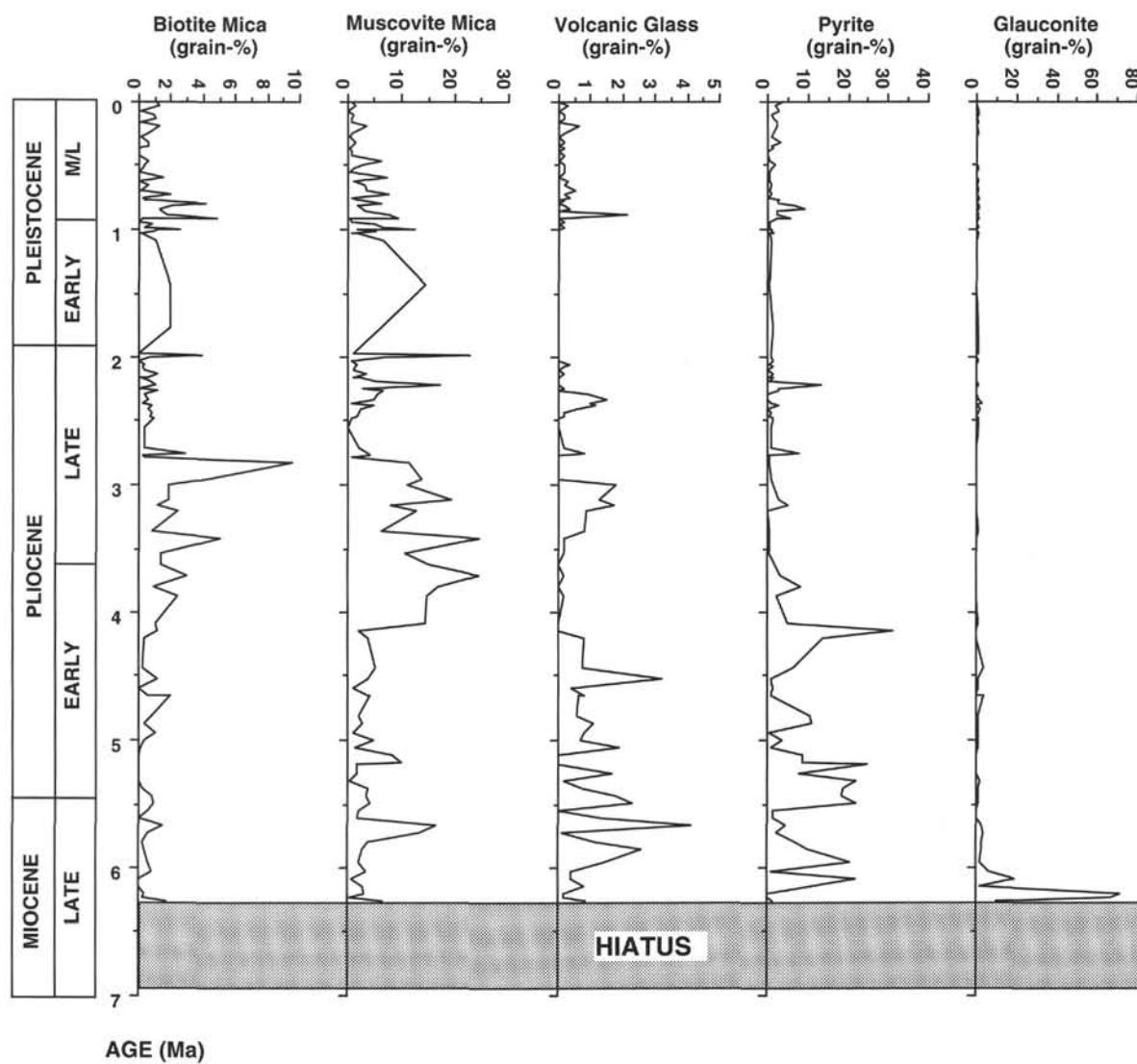


Figure 18. Coarse-fraction terrigenous/volcanic and authigenic components vs. age at Site 908.

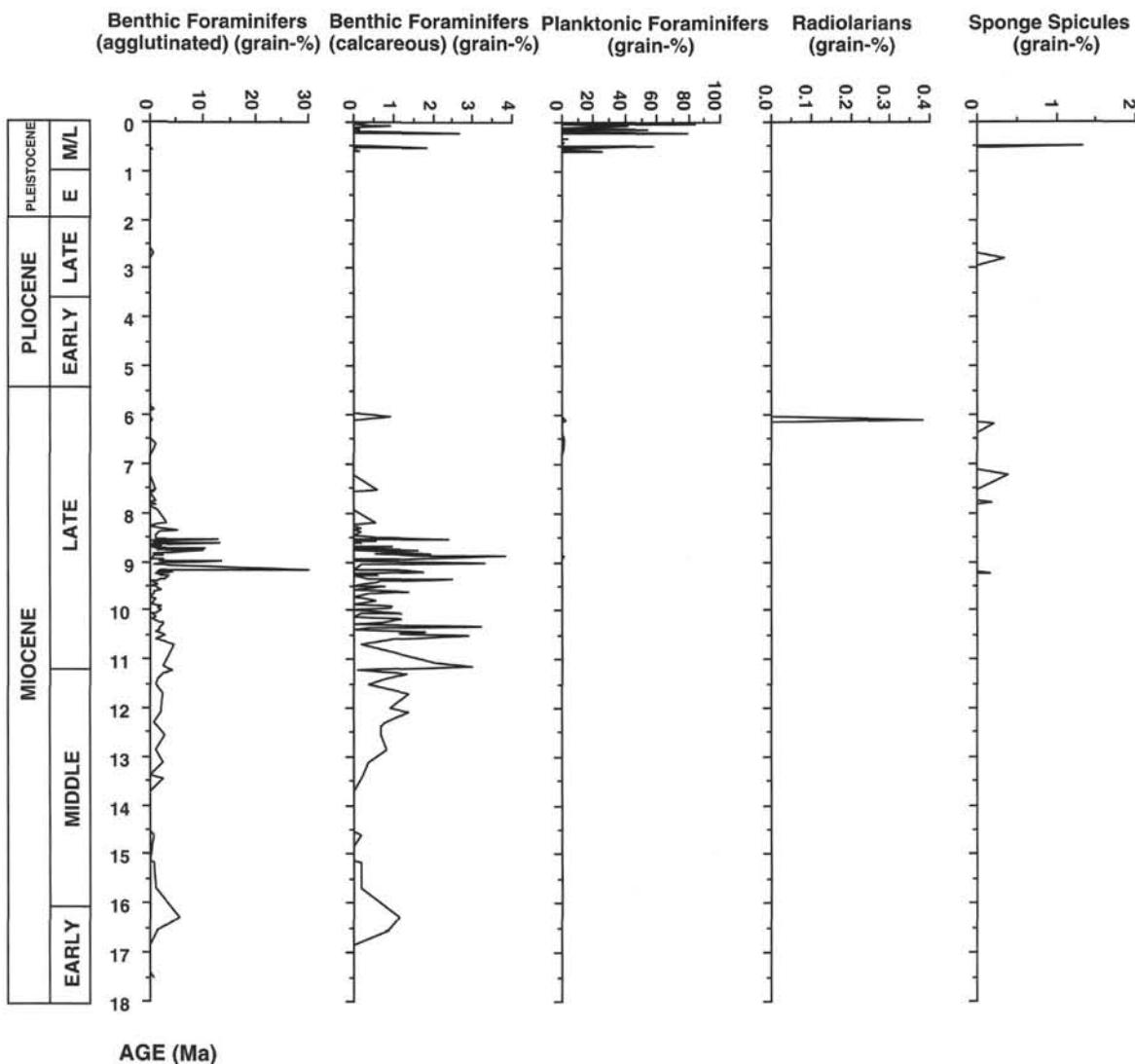


Figure 19. Coarse-fraction biogenic components vs. age at Site 909.

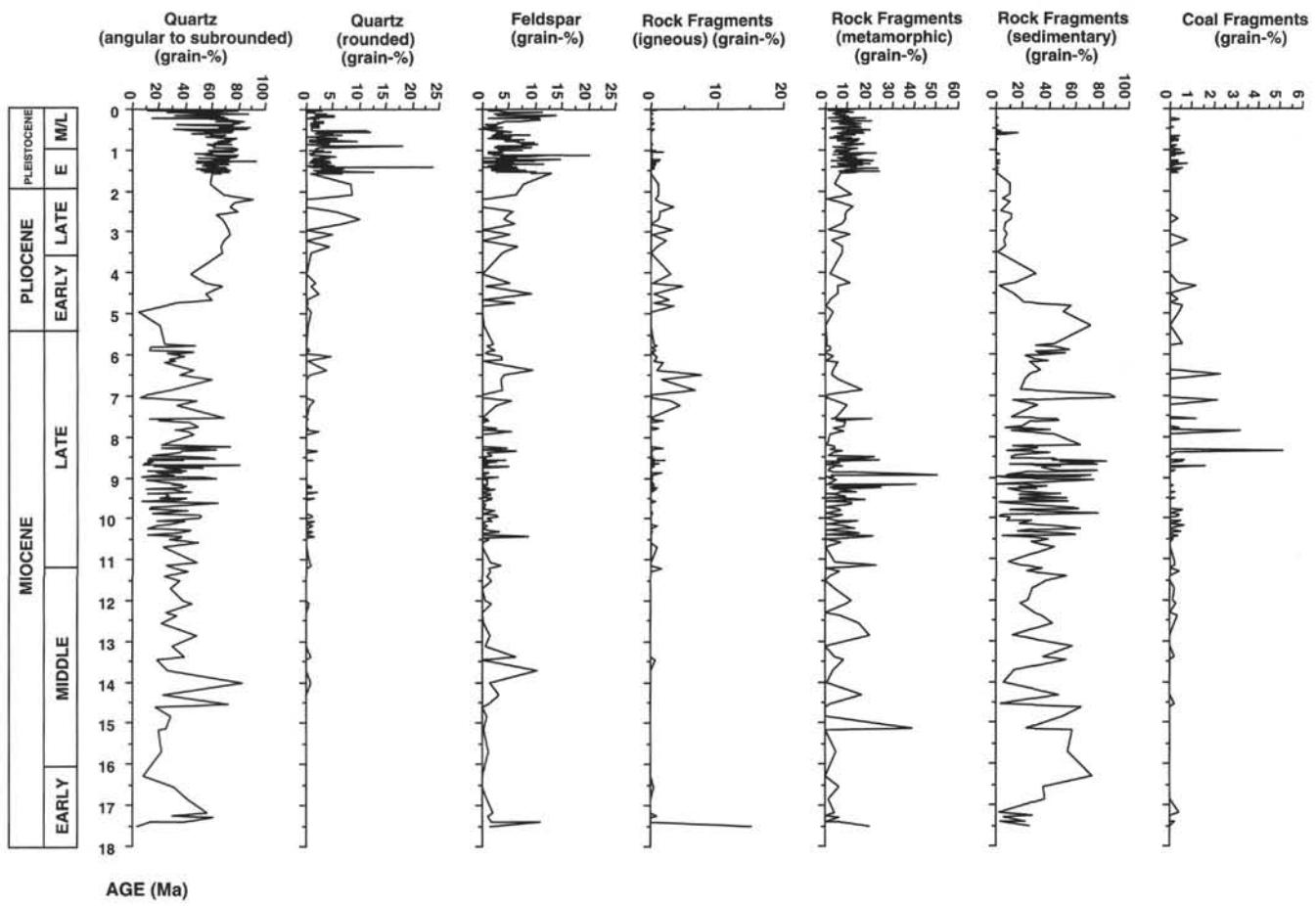


Figure 20. Coarse-fraction terrigenous components vs. age at Site 909.

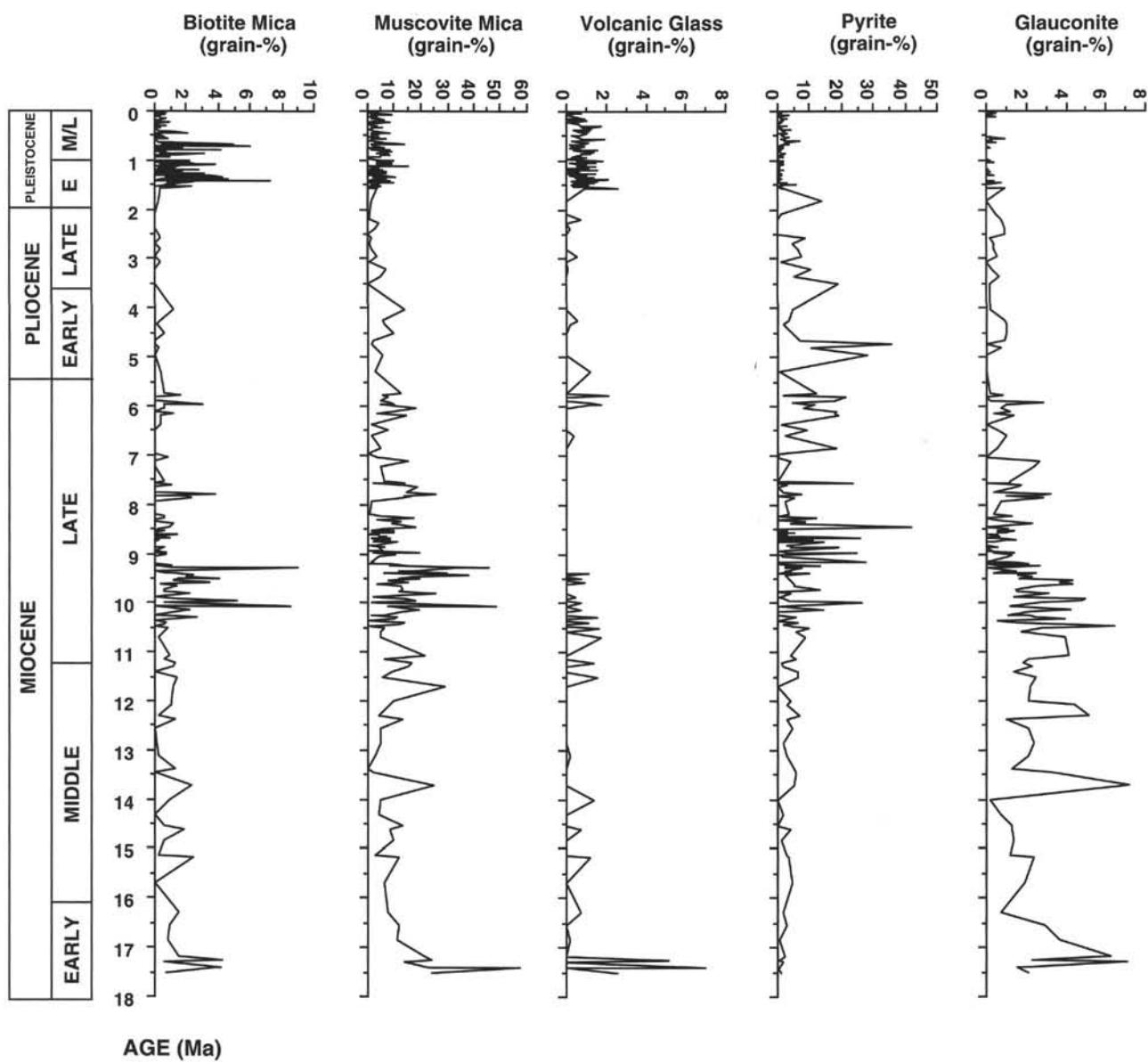


Figure 21. Coarse-fraction terrigenous/volcanic and authigenic components vs. age at Site 909.