Major Lithologies:
The sediments vary between dark brown CLAYEY NANNOFOSSIL FORAMINIFER OOZE and yellowish brown FORAMINIFER NANNOFOSSIL OOZE. The upper portion of the core contains a greater proportion of darker CLAYEY NANNOFOSSIL FORAMINIFER OOZE. From Section 2, FORAMINIFER NANNOFOSSIL OOZE WITH CLAY is dominant but darker intervals of the clay-rich lithology occur throughout. Both lithologies contain minor amounts of Fe-oxides and volcanic glass. Pale brown to very pale brown (10YR 6/3 to 10YR 2/2) FORAMINIFER NANNOFOSSIL OOZE (with equal proportions of foraminifers and nannofossils) also fills burrow structures throughout the major lithologies.

Minor Lithology:
Dark brown to very dark brown (10YR 3/3 to 10YR 2/2) layers of CLAYEY FORAMINIFER OOZE WITH RADIOLARIANS AND OXIDES occur in Section 1, 0-22 cm, 90-119 cm and Section 2, 50-70 cm, Section 3, 0-20 cm, 40-50 cm, 82-115 cm, 125-135 cm and Section 4, 0-11 cm and 81-98 cm.

General Description:
TRACE FOSSILS: Sediments are moderately to intensely bioturbated; rind burrows, solid burrows, and Planolites are common. Chondrites occurs within an individual burrow fill and Skolithos and Zoophycos are also rare.
## Reflectance (%)

<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>1.4</td>
</tr>
<tr>
<td>40</td>
<td>1.5</td>
</tr>
<tr>
<td>60</td>
<td>1.6</td>
</tr>
</tbody>
</table>

## Major Lithologies
- **10YR 5/4**
  - CLAYEY NANNOFISSION
  - FORAMINIFER Ooze and FORAMINIFER NANNOFISSION Ooze

## Minor Lithologies
- **10YR 3/4 to 10YR 3/6**
  - Pale brown to very pale brown (10YR 6/3 to 10YR 8/2) FORAMINIFER NANNOFISSION Ooze (about 50/50)
  - Dark brown (10YR 3/6) layers of CLAYEY FORAMINIFER Ooze WITH RADIOLARIANS are found in Section 1, 0-15 cm, 70-150 cm and Section 2, 118-127 cm.

## General Description
- **TRACE FOSSILS**: Sediments are moderately to intensely bioturbated and rind burrows, solid burrows, and Planolites are common. Skolithos and Zoophycos also are present.
- **BANDING CONTRAST**: Moderate.
**SITE 852 HOLE B CORE 2H**

**CORED 8.9 - 18.4 mbsf**

<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
<th>Graphic Lith.</th>
<th>Age</th>
<th>Structure</th>
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<th>Color</th>
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<td>30 - 50</td>
<td>1.3 - 1.4 - 1.5</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Description**

- **NANNOFOSSIL FORAMINIFER Ooze and FORAMINIFER NANNOFOSSIL Ooze**

  - **Major Lithologies:**
    - The dominant lithology varies from a NANNOFOSSIL FORAMINIFER Ooze to a FORAMINIFER NANNOFOSSIL Ooze with the foraminifer content varying from about 40-70%. The color varies from very pale brown (10YR 7/3) to yellowish brown (10YR 5/4) with increasing minor content of oxides.

- **Minor Lithology:**
  - Dark yellowish brown to dark brown (10YR 4/4 to 10YR 3/3) horizons contain NANNOFOSSIL FORAMINIFER Ooze with oxides and glass with lower quantities of nannofossils than the dominant lithology and minor amounts of clay. These intervals are marked on the structure column opposite.

- **General Description:**
  - **TRACE FOSSILS:** Bioturbation is moderate to strong within the darker lithologies and light within the paler lithologies. Solid burrows and Planolites are common and some possible Zoophycos occur in Sections 4 and 6.

- **BANDING CONTRAST:** A wide range of contrast from slight to strong occurs.

---

**Susceptibility (instrument units)**
### SITE 852 HOLE B CORE 3H

<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
<th>Material</th>
<th>Graphic Lith.</th>
<th>Sample</th>
<th>Measure</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>30 50 70</td>
<td>1.4 1.5 1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Description**

**NANNOFOSSIL FORAMINIFER Ooze**

- **Major Lithology:**
  - This core consists of pale yellow to dark brown NANNOFOSSIL FORAMINIFER Ooze with minor amounts of clay. Color variations appear related to the oxide content of the sediment and do not reflect changes in the major components.

- **General Description:**
  - TRACE FOSSILS: Sediments are slightly to moderately bioturbated and contain abundant solid burrows and Planolites. Skolithos and Zoophycos also are present.

- **BANDING CONTRAST:** Moderate to strong.

- **NOTE:** A void is present in Section 1, 53-60 cm.
<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cc)</th>
<th>Meter</th>
<th>Graphic Lith.</th>
<th>Section</th>
<th>Structure</th>
<th>Date</th>
<th>Sample</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 50 70</td>
<td>1.4 1.5 1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FORAMINIFER NANNOFOSIL OOZE and NANNOFOSIL FORAMINIFER OOZE</td>
</tr>
</tbody>
</table>

**Major Lithologies:**
This core is strongly color banded, from dark brown to white. Pale bands are FORAMINIFER NANNOFOSIL OOZE, and a darker bands are NANNOFOSIL FORAMINIFER OOZE, but both are nearly 50% nannofossils and 50% foraminifers, with small amounts of oxides.

**General Description:**
TRACE FOSSILS: These sediments are weakly bioturbated, Zoophycos and Planolites are present.

**BANDING CONTRAST:** Strong.

**Note:**
- The table and figure provide detailed information about the core, including reflectance, GRAPE density, meter, graphic lithology, section, structure, date, sample, color, and description. The core is strongly color banded, with bands ranging from dark brown to white. The lithology is dominated by nannofossils and foraminifers, with minor amounts of oxides. The sediments are weakly bioturbated, with Zoophycos and Planolites present. The banding contrast is strong.
### Description

**FORAMINIFER NANNOSIL Ooze and CLAYEY FORAMINIFER NANNOSIL Ooze**

**Major Lithologies:**

The dominant lithologies of this core are brown to yellowish brown (10YR 3/3 to 10YR 5/6) FORAMINIFER NANNOSIL Ooze and CLAYEY FORAMINIFER NANNOSIL Ooze. Moderately dark intervals are enriched in clay.

**Minor Lithology:**

The darkest intervals in Sections 1 through 3 contain more clay and radiolarians and are brown (10 YR 3/3) RADOLARIAN CLAYEY NANNOSIL Ooze WITH FORAMINIFERS.

**General Description:**

**TRACE FOSSILS:** The core is moderately bioturbated. Solid burrows are the most common trace fossils. Rind burrows are present at Section 2, 90 cm, Section 4, 25 cm, Section 5, 6 cm, and Section 7, 55 cm.

**BANDING CONTRAST:** High.
**SITE 852 HOLE B CORE 6H**

<table>
<thead>
<tr>
<th>Layer</th>
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<th>Structure</th>
<th>Sample</th>
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<th>Description</th>
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<tbody>
<tr>
<td>0</td>
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<td></td>
<td></td>
<td></td>
<td>NANNOFOSIL OOZE WITH FORAMINIFERS and RADIOLARIANS</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>S</td>
<td>10YR</td>
<td>6/3</td>
<td>Major Lithologies: This upper two sections of this core contain light brown (10YR 6/3 - 10YR 8/3) NANNOFOSIL OOZE WITH FORAMINIFERS AND RADIOLARIANS. The lower three sections contain very pale brown (10YR 8/1) to pale gray (N8 and 5Y 8/1) NANNOFOSIL OOZE WITH FORAMINIFERS.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Minor Lithology: The minor lithology in the core is very pale brown (10YR 8/2 to 10YR 8/1) FORAMINIFER NANNOFOSIL OOZE.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>General Description: The first sediments in the core that are &quot;green&quot; in color occur in Section 5 at 55 cm. TRACES FOSSILS: The core is slightly to moderately bioturbated. The most common trace fossils are filled burrows.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BANDING CONTRAST: The banding contrast in the upper half of the core is moderate; the contrast in the lower half of the core is very slight.</td>
</tr>
</tbody>
</table>
**Major Lithologies:**
This core is dominated by pale gray (N8) to pale brown (10YR 8/3) FORAMINIFER NANNOFOSIL OOZE WITH CLAY and pale yellowish gray (5Y 6/1 to 5Y 8/1) FORAMINIFER NANNOFOSIL OOZE. FORAMINIFER NANNOFOSIL OOZE WITH DIATOMS.

**General Description:**
TRACE FOSSILS: The entire core is moderately bioturbated, but individual burrows and bioturbation features are clearest in the dark intervals. Zoophycos is present in Section 1, 65-90 cm, Section 5, 147 cm, Section 6, 5 cm. Chondrites is present in Section 6, 95-100 cm.
### Reflectance (%)

| 30 | 40 | 50 | 60 |

### GRAPE Density (g/cm³)

| 1.5 | 1.6 |

### Major Lithology:
- This core contains pale gray (N8) to pale greenish gray (SGY 8/1) FORAMINIFER NANNOFOSIL OOZE WITH DIATOMS AND RADIOLARIANS. There are a few slightly darker intervals in the core that contain the minor lithology and are gradationally interbedded with the major lithology.

### Minor Lithologies:
- Sediment (5GY 6/1 - 5GY 7/1) contain RADIOLARIAN FORAMINIFERS. Sections 6 and 7 contain intervals that have a few pale yellowish gray burrows. These burrowed intervals are FORAMINIFER RADIOLARIAN NANNOFOSIL OOZE WITH DIATOMS.

### General Description:
- TRACE FOSSIL: The entire core is slightly bioturbated. The most common trace fossils are solid burrows. Chondrites is present at Section 7, 60 cm.
- BANDING CONTRAST: Slight. Darker intervals of light greenish gray.
Major Lithology:
The sediments in this core consist of NANNOFOSIL OOZE WITH FORAMINIFERS. The sediments sharply change from light greenish gray (5BG 7/1) to light bluish gray (5B 7/1) in Section 1 through Section 6, 115 cm, to very pale orange (10YR 8/2) in the remainder of the section.

General Description:
TRACE FOSSILS: Bioturbation is very slight. Skolithos is present in Section 1, 45-75.

BANDING CONTRAST: Slight.
CLAYEY NANNOFOSSIL OOZE WITH FORAMINIFERS AND RADIOLARIANS and RADIOLARIAN NANNOFOSIL OOZE WITH CLAY.

Major Lithologies:
This core contains ultra pale yellowish brown (10YR 9/2) CLAYEY NANNOFOSIL OOZE WITH FORAMINIFERS AND RADIOLARIANS and pale yellowish brown (10YR 8/2) RADIOLARIAN NANNOFOSIL OOZE WITH CLAY. The radiolarian-rich lithology is present between Section 3, 105 cm and Section 5, 130 cm.

General Description:
The core contains several intervals of manganese dendrites and a few small thin clasts of hematite. A broken 1 cm macrofossil (echinoderm?) is present at Section 6, 103 cm.

TRACE FOSSILS: A rind burrow is present at Section 4, 110 cm.

BANDING CONTRAST: Very slight.
<table>
<thead>
<tr>
<th>Section</th>
<th>Structure</th>
<th>Depth</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S</td>
<td>0-5</td>
<td>10YR 9/2</td>
<td>RADIOLARIAN CLAYEY NANNOFOSIL Ooze and RADIOLARIANS</td>
</tr>
<tr>
<td>2</td>
<td>Mn</td>
<td>5-10</td>
<td>10YR 8/2 to 10YR 7/2</td>
<td>From Section 4, 55 cm, through the end of the core, the sediments are pale orange (10YR 8/2 to 10YR 7/2) to light yellowish brown (10YR 6/2) NANNOFOSIL Ooze WITH FORAMINIFERS AND RADIOLARIANS. Intervals of manganese dendrites are visible in the Sections 1 through 4. Bioturbation is slight throughout the core.</td>
</tr>
<tr>
<td>3</td>
<td>Mn</td>
<td>10-15</td>
<td>10YR 7/2</td>
<td>Minor Lithology: The darkest lithology in the core, is a yellowish brown (10YR 5/4) RADIOLARIAN NANNOFOSIL Ooze WITH FORAMINIFERS in Sections 6 and 7.</td>
</tr>
<tr>
<td>4</td>
<td>Mn</td>
<td>15-20</td>
<td>10YR 5/4</td>
<td>General Description: TRACE FOSSILS: Rind burrows are visible in Sections 4 though 7, often of much lighter color than the surrounding sediments.</td>
</tr>
<tr>
<td>5</td>
<td>Mn</td>
<td>20-25</td>
<td>10YR 6/2</td>
<td>BANDING CONTRAST: Very slight.</td>
</tr>
</tbody>
</table>

**Major Lithologies:**

The sediments down to Section 4, 55 cm consist of ultra pale yellowish brown (10YR 9/2) RADIOLARIAN CLAYEY NANNOFOSIL Ooze. From Section 4, 55 cm, through the end of the core, the sediments are pale orange (10YR 8/2 to 10YR 7/2) to light yellowish brown (10YR 6/2) NANNOFOSIL Ooze WITH FORAMINIFERS AND RADIOLARIANS. Intervals of manganese dendrites are visible in the Sections 1 through 4. Bioturbation is slight throughout the core.

**Minor Lithology:**

The darkest lithology in the core, is a yellowish brown (10YR 5/4) RADIOLARIAN NANNOFOSIL Ooze WITH FORAMINIFERS in Sections 6 and 7.

**General Description:**

TRACE FOSSILS: Rind burrows are visible in Sections 4 though 7, often of much lighter color than the surrounding sediments.

**BANDING CONTRAST:** Very slight.
Major Lithology:
This core is dominated by light yellowish brown to dark yellowish brown RADIOLARIAN NANNOFOSIL Ooze. Differences in color appear to be related to oxide content.

Minor Lithology:
From Section 2, 125 cm to Section 3, 20 cm is very dark grayish brown METALLIFEROUS RADIOLARIAN Ooze WITH DIATOMS.

General Description:
TRACE FOSSILS: Rind burrows and solid burrows are common throughout the core.

BANDING CONTRAST: Slight to moderate.
## Major Lithologies:

This core consists of light yellowish brown to yellowish brown FORAMINIFER NANNOFOSSIL OOZE interbedded with dark yellowish brown NANNOFOSSIL CLAYEY FORAMINIFER OOZE with OXIDES and RADIOLARIANS.

## Minor Lithology:

The mudline and upper interval of the core is composed of dark brown NANNOFOSSIL FORAMINIFER OOZE WITH CLAY.

## General Description:

TRACE FOSSILS: Solid burrows are common in the bioturbated intervals of this core.

BANDING CONTRAST: Slight to moderate.
 Major Lithologies: The dominant lithology alternates between a very pale brown (10YR 7/3) NANNOFOSIL FORAMINIFER Ooze, FORAMINIFER NANNOFOSIL Ooze, NANNOFOSIL FORAMINIFER Ooze with oxides and FORAMINIFER NANNOFOSIL Ooze with oxides. The considerable variation in the relative abundance of foraminifers and nannofossils appears to be independent of the variation in oxide content responsible for the main color variation.

Minor Lithology: Within the dark yellowish brown intervals, darker intervals of very dark grayish brown (10YR 3/2) OXIDE NANNOFOSIL FORAMINIFER Ooze occur (indicated by the solid interbed symbol on the structure column opposite). As with the dominant lithology these sediments contain variable quantities of foraminifers and nannofossils.

General Description: TRACE FOSSILS: Bioturbation generally appears stronger within the darker intervals. Solid burrows and rind burrows are common with some Planolites and possible Zoophycos. BANDING CONTRAST: Moderate to Strong.

NOTE: Void in Section 1, 130-138 cm.
SITE 852 HOLE C CORE 3H
CORED 15.5 - 25.0 mbsf

Reflectance (%)
GRAPE Density (g/cm³)
Graphic Lith.
Structure
Density
Sample
Color
Description

FORAMINIFER NANNOFOSIL OOZE:
Major Lithology: The sediments are pale yellow to dark brown NANNOFOSIL FORAMINIFER OOZE with a small amount of clay. Gradational bands of darker brown (10YR 3/5) and very pale brown (10YR 8/2) are present throughout the core and are related to the oxide content of the sediment. Foraminifer abundance decreases from about 50% in the upper portion of the core to about 40% near the bottom.

General Description: TRACE FOSSILS: Sediments are slightly to moderately bioturbated and contain abundant solid burrows and Planolites. Skolithos and Zoophycos also are present.

BANDING CONTRAST: Moderate.

Susceptibility (instrument units)
SITE 852 HOLE C CORE 4H
CORED 25.0 - 34.5 mbsf

Description
FORAMINIFER NANNOFOSIL OOZE, NANNOFOSIL FORAMINIFER OOZE, FORAMINIFER NANNOFOSIL OOZE WITH OXIDES and NANNOFOSIL FORAMINIFER OOZE WITH OXIDES

Major Lithologies:
The dominant lithology alternates between a very pale brown (10YR 7/3) NANNOFOSIL FORAMINIFER OOZE or FORAMINIFER NANNOFOSIL OOZE and a dark yellowish brown (10 YR 4/4) NANNOFOSIL FORAMINIFER OOZE WITH OXIDES or FORAMINIFER NANNOFOSIL OOZE WITH OXIDES. Nannofossils are slightly more abundant than foraminifers although more foraminifer-rich intervals occur. From smear slide analysis of the darker lithologies, a deep reddish brown is associated with slightly translucent reddish Fe-oxides and a grayish brown with opaque Mn-micronodules.

Minor Lithology:
Within the dark yellowish brown intervals, darker intervals of very dark grayish brown (10YR 3/2) OXIDE NANNOFOSIL FORAMINIFER OOZE occur (indicated by the solid interbed symbol on the structure column opposite). As with the dominant lithology these sediments contains variable quantities of foraminifers and nannofossils.

General Description:
TRACE FOSSILS: Bioturbation is generally most apparent along the boundaries between the darker and paler lithologies. Solid burrows and Planolites are most common with rare Chondrites.

BANDING CONTRAST: Moderate to strong.
SITE 852 HOLE C CORE 5H  CORED 34.5 - 44.0 mbsf

**Description**

**Major Lithology:**
The dominant lithology in this core is pale brown to brown (10YR 6/3 - 10YR 5/3) FORAMINIFER NANNOFOSSIL Ooze WITH CLAY. This lithology is gradationally interbedded with the two minor lithologies.

**Minor Lithologies:**
- Lighter shades of light brownish gray to pale brown (10YR 6/2-7/3) are CLAYEY FORAMINIFER NANNOFOSSIL Ooze.
- Darker shades of brown (10YR 3/3-5/3) are FORAMINIFER CLAYEY NANNOFOSSIL Ooze WITH OXIDES.

**General Description:**
- **TRACE FOSSILS:** The entire core is moderately bioturbated, but the burrowing is clear only in darker intervals. The most common trace fossils are solid burrows. Rind burrows are present at Section 2, 25 cm, Section 3, 60 cm, Section 4, 115 cm, Section 5, 144 cm, and Section 7, 40 cm.
- **BANDING CONTRAST:** High.
Description

NANNOFOSSIL OOZE WITH FORAMINIFERS AND CLAY

Major Lithology:
The sediments in this core are primarily light yellowish brown (10YR 7/2) alternating with pale brown (10YR 6/3) NANNOFOSSIL OOZE WITH FORAMINIFERS AND CLAY.
The "brown-green" transition in the sediments occurs at approximately Section 6, 75 cm.

General Description:
TRACE FOSSILS: Planolites, Skolithos, and solid burrows are present.

BANDING CONTRAST: Moderate.

Institution units

Susceptibility (g/cm³)
FORAMINIFER NANNOFOSIL OOZE WITH RADIOLARIANS AND DIATOMS and FORAMINIFER NANNOFOSIL OOZE

Major Lithologies:
The sediments consist of light gray to white to bluish white FORAMINIFER NANNOFOSIL OOZE with RADIOLARIANS AND DIATOMS. Siliceous microfossils generally are present in minor amounts but darker bands which have slightly greater percentages of radiolarians (up to 12%) occur throughout the entire core. Section 2, 130 cm to Section 4, 105 cm is light gray to light yellowish gray and contains fewer siliceous microfossils than the rest of the core. This interval also contains minor clay.

General Description:
TRACE FOSSILS: Sediments are moderately bioturbated but trace fossils are more apparent in the darker intervals. Solid burrows, Planolites and Skolithos are abundant; Zoophycos are common.

BANDING CONTRAST: Slight.
Major Lithologies:
NANNOFOSSIL OOZE WITH FORAMINIFERS and NANNOFORSSTOOZE
The dominant lithology varies from
NANNOFOSSIL OOZE WITH FORAMINIFERS to NANNOFORSSTOOZE with foraminifer abundance of
about 5-6%. Colors range from light
grey (5Y 7/1) to very light grey (NR).

Minor Lithologies:
Greenish gray to light greenish gray
(5GY 6/1 to 5GY 7/1), typically 10-20
cm beds of RADIOLARIAN
NANNOFOSSIL OOZE WITH DIATOMS AND CLAY occur
throughout the core but are most
common in Sections 1 to 3. The darker
of these interbeds are relatively more
rich in siliceous microfossils and clay.
These beds are marked in the
structures column by the thick color
band with gradational contact symbol.
Light gray burrow fills of
NANNOFOSSIL OOZE WITH FORAMINIFERS AND DIATOMS
occur in Sections 6 and 7.

General Description:
TRACE FOSSILS: Bioturbation is light
in the paler intervals and moderate
within, and adjacent to, the darker
RADIOLARIAN NANNOFORSSTOOZE WITH DIATOMS AND CLAY beds and
in the zone of light gray burrow fills.
Solid burrows are most common with
some Planolites and vertical Skolithos
burrows. Zoophycos is occasionally
present and faint Chondrites occurs
within the light gray fill to solid burrows
in Sections 6 and 7.

BANDING CONTRAST: Slight to
moderate.
Major Lithologies:
The dominant lithology varies from NANNOFOSIL OOZE with fluctuating diatom (2-7%), radiolarian (2-8%) and foraminifer (5%) contents. Color ranges from light gray to light greenish gray in Sections 1 to 3 and very light gray in Sections 4 to CC.

Minor Lithology:
Light greenish gray to light greenish gray interbeds in Sections 1, 2, 3 and 7 contain FORAMINIFER RADIOLARIAN NANNOFOSIL OOZE.

General Description:
TRACE FOSSILS: Bioturbation is light to moderate in Sections 1 to 3 and is most pronounced within and adjacent to the darker interbeds. In Sections 4 to 6 bioturbation is slight to absent. Solid burrows and Planolites are most common with rare Zoophycos and a zone of prominent vertical Skolithos burrows between Section 2, 135 cm - Section 3, 15 cm.
**Major Lithologies:**
The upper portion of the core consists of light gray NANNOFOSIL OOZE WITH FORAMINIFERS AND RADIOLARIANS. Section 2, 82 cm marks a sharp color transition to very pale brown sediments consisting of FORAMINIFER RADIOLARIAN NANNOFOSIL OOZE. Disseminated manganese oxides occur throughout Sections 4-7.

**General Description:**
TRACE FOSSILS: Few trace fossils are visible in this core. Planolites and solid burrows are present.

BANDING CONTRAST: None.
TRACE FOSSILS: The core is extremely homogeneous, and virtually no burrowing features are present except in Section 7, where a few solid burrows are present.

BANDING CONTRAST: Slight.

DISTURBANCE: A void is present in Section 1, 102-107 cm.

**Major Lithology:**
This core consists of white to very pale brown RADIOLARIAN NANNOFOSIL OOZE WITH FORAMINIFERS. Within Sections 1-6, very subtle color variations exist, within a single Munsell color category. Disseminated manganese oxides occur throughout the core, but are especially prevalent in Sections 4 and 6.

**Minor Lithology:**
A small pebble of PUMICE is present in Section 7, 35 cm.

**General Description:**
TRACo FOSSILS: The core is extremely homogeneous, and virtually no burrowing features are present except in Section 7, where a few solid burrows are present.

**DISTURBANCE:** A void is present in Section 1, 102-107 cm.
Sediments in the top of the core are white to very pale brown RADIOLARIAN FORAMINIFER NANNOFOSSIL OOZE. Below Section 2, 13 cm is very pale brown to dark yellowish brown CLAYEY RADIOLARIAN NANNOFOSSIL OOZE. Manganese and iron oxides are present throughout both lithologies but are more abundant in the darker intervals. Burrows are commonly filled with a light brown diatom-rich sediment.

Minor Lithologies:
Section 5, 90-130 cm is very dark yellowish brown (10YR 2/2) RADIOLARIAN CLAY with OXIDES.

General Description:
TRACE FOSSILS: The entire core is moderately to intensely bioturbated. Rind and solid burrows, Planolites and Skolithos are abundant. Chondrites are common in Sections 5-7.

BANDING CONTRAST: Moderate.
SITE 852  HOLE C  CORE 13X
CORED 110.5 - 117.3 mbsf

<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
<th>Structure</th>
<th>Sample</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>40</td>
<td>60</td>
<td>1.4</td>
<td>1.6</td>
</tr>
<tr>
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<td>10YR 6/4</td>
<td>10YR 6/4</td>
<td></td>
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<tr>
<td>S</td>
<td>10YR 4/4</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>MS</td>
<td></td>
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</tr>
</tbody>
</table>

**Description**

Major Lithologies:
- Sediments in this core are light yellowish brown to dark yellowish brown RADIOLARIAN NANNOFOSIL Ooze. Darker sediments consist of RADIOLARIAN NANNOFOSIL Ooze WITH OXIDES. Manganese and iron oxides are present throughout both lithologies. There are no siliceous microfossils beneath the top of Section 6 and the lithology in Section 6 and the CC is a NANNOFOSIL Ooze WITH FORAMINIFERS.

Minor Lithology:
- In Sections 1-5 very pale yellow to white burrow fills consist of NANNOFOSIL DIATOM Ooze with strongly monospecific floras of the diatom Thalassiothrix longissima.

General Description:
- TRACE FOSSILS: Bioturbation is moderate throughout the core. Fluid burrows and solid burros are common.
- BANDING CONTRAST: Moderate.
FORAMINIFER NANNOFOSIL OOZE and NANNOFOSIL FORAMINIFER OOZE

Major Lithologies:
This core contains rhythmically banded sediments which alternate between FORAMINIFER NANNOFOSIL OOZE and NANNOFOSIL FORAMINIFER OOZE. The varying coloration from light gray to dark brown is due mainly to varying concentrations of oxide minerals.

General Description:
TRACE FOSSILS: Sediments are weakly to moderately bioturbated. Most commonly observed trace fossils are filled burrows, but examples of rind burrows occur in Section 2, 75 cm. Zoophycos is present in Section 5, 60 cm, and Skolithos is present in Section 5, 110 cm.

BANDING CONTRAST: Strong. Banding is rhythmic with a 40 to 60 cm wavelength. Large scale color banding is noted with Munsell colors, and smaller scale banding is noted with banding structure symbols.
<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
<th>Graphic Lith.</th>
<th>Age</th>
<th>Structure</th>
<th>Disturb</th>
<th>Sample</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FORAMINIFER NANNOFOSSIL Ooze and NANNOFOSSIL FORAMINIFER Ooze</td>
</tr>
<tr>
<td>50</td>
<td>1.5</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Major Lithologies: This core consists of FORAMINIFER NANNOFOSSIL Ooze interbedded with NANNOFOSSIL FORAMINIFER Ooze. Color varies from light yellowish brown to dark brown. The darker layers contain slightly more oxides and foraminifers than the lighter layers and are indicated in the structures column. Clay is present in minor amounts.</td>
</tr>
<tr>
<td>1.6</td>
<td>1.6</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>General Description: TRACE FOSSILS: Solid burrows, Skolithos and Planolites are abundant.</td>
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<td></td>
<td></td>
<td>BANDING CONTRAST: Moderate.</td>
</tr>
</tbody>
</table>
### Site 852 HOLE D CORE 3H

**Cored 21.0 - 30.5 mbsf**

<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
<th>Graphite Lith.</th>
<th>Age</th>
<th>Structure</th>
<th>Sample</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 30 40 50 60 70</td>
<td>1.4 1.5 1.6</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**NANNOFOSIL FORAMINIFER Ooze and FORAMINIFER NANNOFOSIL Ooze**

Major Lithology: Sediments from this core grade from dark brown NANNOFOSIL FORAMINIFER Ooze to yellowish brown FORAMINIFER NANNOFOSIL Ooze. Foraminifer content decreases, from 60% to 40% downcore. Contacts between color bands are gradational.

General Description: TRACE FOSSILS: Planolites and solid burrows are abundant. Zoophycos also are present.

BANDING CONTRAST: Moderate.

NOTE: Voids are present in Section 1, 10-12 cm and 18-20 cm.
### FORAMINIFER NANNOFOSIL OOZE and NANNOFOSIL FORAMINIFER OOZE

Major Lithologies:
The sediments in this core alternate between pale brown (10YR 6/3) and light yellowish brown (10YR 5/4) FORAMINIFER NANNOFOSIL OOZE, and yellowish brown (10YR 5/4) to dark brown (10YR 4/3) NANNOFOSIL FORAMINIFER OOZE.

**General Description:**
TRACE FOSSILS: Solid burrows and Planolites are present throughout.

**BANDING CONTRAST:** Moderate.
**SITE 852 HOLE D CORE 5H**

**CORED 40.0 - 49.5 mbsf**

- **Reflectance (%)**
- **GRAPE Density (g/cm³)**
- **Graphic Lith.**
- **Age**
- **Structure**
- **Disturb.**
- **Sample**
- **Col.**
- **Description**

<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
<th>Graphic Lith.</th>
<th>Age</th>
<th>Structure</th>
<th>Disturb.</th>
<th>Sample</th>
<th>Col.</th>
<th>Description</th>
</tr>
</thead>
</table>

**FORAMINIFER NANNOFOSSIL Ooze WITH CLAY**

- Major Lithology:
  - The dominant lithology in this core is pale brown to brown (10YR 6/3 - 10YR 5/3) FORAMINIFER NANNOFOSIL Ooze WITH CLAY. The lithology is gradationally interbedded with the two minor lithologies.

- Minor Lithologies:
  - Lighter shades, light brownish gray to pale brown (10YR 6/3 - 10YR 8/3), are CLAYEY FORAMINIFER NANNOFOSIL Ooze. Darker shades of brown (10YR 3/3 - 10YR 5/3) are FORAMINIFER CLAYEY NANNOFOSIL Ooze WITH OXIDES.

**General Description:**

- **TRACE FOSSILS:** The entire core is slightly to moderately bioturbated, but the burrowing is clear only in darker intervals. The most common trace fossils are solid burrows but ring burrows are present in every section.
- **Skolithos** is present in Section 1.

- **BANDING CONTRAST:** Moderate to high.
**SITE**: 852  **HOLE**: D  **CORE**: 6H  **CORED**: 49.5 - 59.0 mbsf

<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>1.5</td>
<td>Major Lithology:</td>
</tr>
<tr>
<td>60</td>
<td>1.6</td>
<td>The sediments in this core are primarily very pale brown (10YR 7/3) to light gray (5Y 7/1) NANNOFOSIL OOZE WITH FORAMINIFERS AND CLAY. The &quot;brown-green&quot; transition in the sediments occurs at approximately Section 3, 147 cm, where the color of the sediments changes to white (N8).</td>
</tr>
<tr>
<td>80</td>
<td>1.7</td>
<td>General Description:</td>
</tr>
<tr>
<td>100</td>
<td>1.8</td>
<td>TRACE FOSSILS: Planolites, Skolithos, and solid burrows are all present.</td>
</tr>
<tr>
<td>20</td>
<td>1.9</td>
<td>BANDING CONTRAST: Slight to moderate.</td>
</tr>
</tbody>
</table>

**Major Lithology:**

**10YR 7/3**

**10YR 8/2**

**N8**

**NANNOFOSSIL OOZE WITH FORAMINIFERS AND CLAY**

**Structure**

<table>
<thead>
<tr>
<th>Section</th>
<th>Age</th>
<th>Structure</th>
<th>Estab.</th>
<th>Sample</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<td>3</td>
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<td>4</td>
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<td>5</td>
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<td>7</td>
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<td></td>
</tr>
</tbody>
</table>
Major Lithology:
This core contains pale gray (N8) to pale greenish gray (5GY 8/1) FORAMINIFER NANNOFOSIL Ooze WITH DIATOMS AND RADIOLARIANS. A few slightly darker intervals in the core that contain the minor lithology are gradationally interbedded with the major lithology.

Minor Lithology:
Darker intervals of light greenish gray sediment (5GY 6/1 - 7/1) contain RADIOLARIAN NANNOFOSIL Ooze WITH FORAMINIFERS. Sections 3 and 4 contain intervals with a few pale yellowish gray burrows that contain sediment with slightly more diatoms than the minor lithology.

General Description:
TRACE FOSSILS: The entire core is slightly bioturbated. The most common trace fossils are solid burrows. Chondrites are present in Section 4, 55 cm. Zoophycos are present in Section 5, 69 cm, and Section 6, 54 cm. Skolithos are present in Section 1, 65-75 cm, Section 5, 140-150 cm, Section 6, 0-15 cm.

BANDING CONTRAST: Slight.
Major Lithology: The sediments in this core consist of very light gray (N8) to light greenish gray (5BG 7/1 and 5G 7/1) FORAMINIFER NANNOFOSSIL Ooze WITH DIATOMS AND RADIOLARIANS. Bioturbation is light throughout the core. A small pod of pumice is present in Section 7, 55-60.

General Description: TRACE FOSSILS: Planolites and solid burrows are common.

BANDING CONTRAST: Slight.
GRAPE Density (g/cm³)

1.5 1.6 1.6

Reflectance (%)

50 70

NANNOCOSSIL OOZE WITH FORAMINIFERS

Major Lithology:
This core contains very pale greenish gray (5GY 7/1-8/1, 5G 7/1-8/1) and pale brown (10YR 8/1-8/3)
NANNOCOSSIL OOZE WITH FORAMINIFERS. A few pale yellowish gray burrows in Sections 1-3 contain slightly more diatom-rich sediment.

General Description:
The color of the core changes abruptly from very pale greenish gray (5G 8/1) to pale brown (10YR 8/3) at Section 5, 77 cm. There is no apparent change in sediment composition across the color change.

TRACE FOSSILS: It is very difficult to determine the intensity of bioturbation because the entire core is very homogenous and very light in color.
The most common trace fossils are solid burrows. Rind burrows occur at Section 3, 115 cm, Section 4, 112 cm, and Section 6, 12 cm.

BANDING CONTRAST: Slight.
**SITE 852 HOLE D CORE 10H**

**CORED 87.5 - 97.0 mbsf**

<table>
<thead>
<tr>
<th>Reflectance (%)</th>
<th>GRAPE Density (g/cm³)</th>
<th>Graphic Lith.</th>
<th>Structure</th>
<th>Sample</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>60, 70, 80, 90</td>
<td>1.5, 1.6, 1.6</td>
<td></td>
<td></td>
<td>Mn</td>
<td></td>
</tr>
<tr>
<td>Reflectance</td>
<td>GRAPE Density (g/cm³)</td>
<td>Graphic Lith.</td>
<td>Structure</td>
<td>Sample</td>
<td>Color</td>
</tr>
</tbody>
</table>

**Description**

**Major Lithologies:**

This core contains ultra pale yellowish brown (10YR 9/2) CLAYEY NANNOFOSSIL OOZE WITH FORAMINIFERS AND RADIOCLARIANS and pale yellowish brown (10YR 8/2-8/3) RADIOCLARIAN NANNOFOSSIL OOZE WITH CLAY.

**General Description:**

The core contains several intervals with manganese dendrites.

**TRACE FOSSILS:** Bioturbation is barely discernible. A rind burrow is present at Section 2, 13 cm. In Sections 4-5 there are a few white burrows filled with diatom-rich sediment.
### TRACE FOSSILS

The entire core is filled with light brown, diatom-rich this lithology. Burrows are commonly present. Skolithos are common. Condrites also are present.

### BANDING CONTRAST: Moderate.

### General Description:

- **Site:** 852
- **Hole:** D
- **Core:** 11H
- **Cored:** 97.0-106.5 mbsf

**Major Lithologies:**
- RADIOLARIAN FORAMINIFER
- NANNOFOSIL OOZE and CLAYEY RADIOLARIAN NANNOFOSSIL OOZE

**Description:**
- Section 1 through Section 4, 135 cm is yellowish white to very pale brown RADIOLARIAN FORAMINIFER NANNOFOSIL OOZE. Manganese oxides are disseminated throughout. The sediments below Section 4, 135 cm are CLAYEY RADIOLARIAN NANNOFOSIL OOZE. The darker brown colors reflect the greater proportion of oxides and clay within this lithology. Burrows are commonly filled with light brown, diatom-rich sediment.

**Upper Miocene:**
- **10YR 8/1**
- **10YR 10/2**
- **10YR 10/7/2**

**Description:**
- General Description: TRACE FOSSILS: The entire core is moderately bioturbated and red burrows, solid burrows, Planolites and Skolithos are common. Condrites also are present.
### Description

**Major Lithologies:**
- The dominant lithology in Sections 1 and 2 is a dark yellowish brown (10YR 4/4) RADICLARIAN NANNOFOSIL OOZE WITH CLAY, typically with a few percent of oxides. From Section 2 to the CC the dominant lithology is a pale brown to yellowish brown (10YR 5/3 to 10YR 5/4) RADICLARIAN NANNOFOSIL OOZE, typically with 3-5% oxides.

**Minor Lithologies:**
- A distinctive, very dark brown (10YR 2/2) bed of RADICLARIAN CLAY WITH OXIDES occurs in Section 1, 87-115 cm. Throughout the Core, from Section 1 to Section 6, 70 cm, white to very pale brown burrows and bioturbated thin bands of NANNOFOSIL DIATOM OOZE are common.

**General Description:**
- TRACE FOSSILS: Bioturbation is moderate to strong throughout with solid burrows and rind burrows abundant.
- BANDING CONTRAST: Moderate.