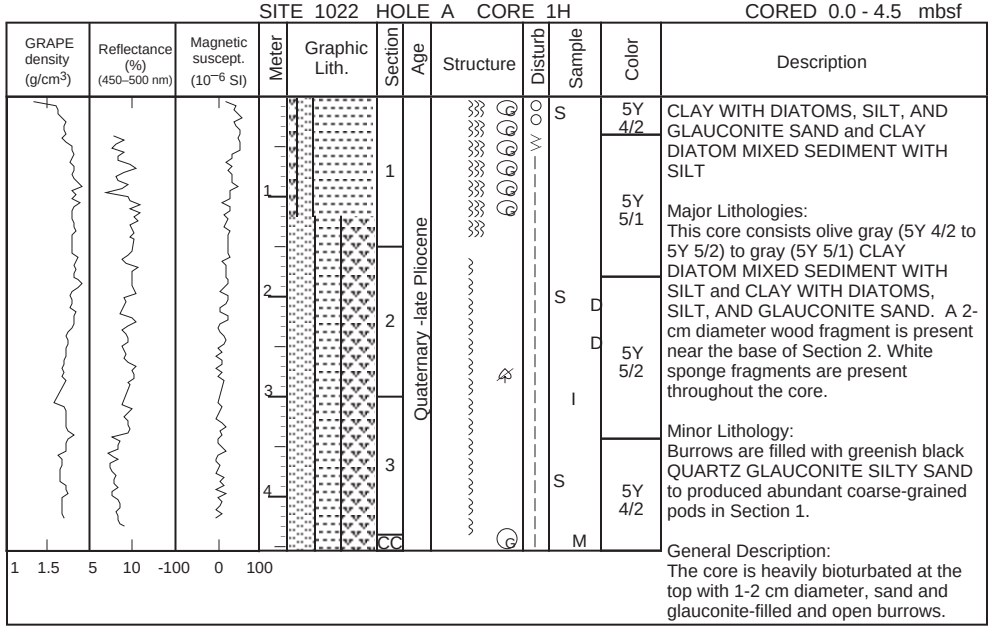
SITE 1022 HOLE A CORE 1H CORED 0.0 - 4.5 mbsf



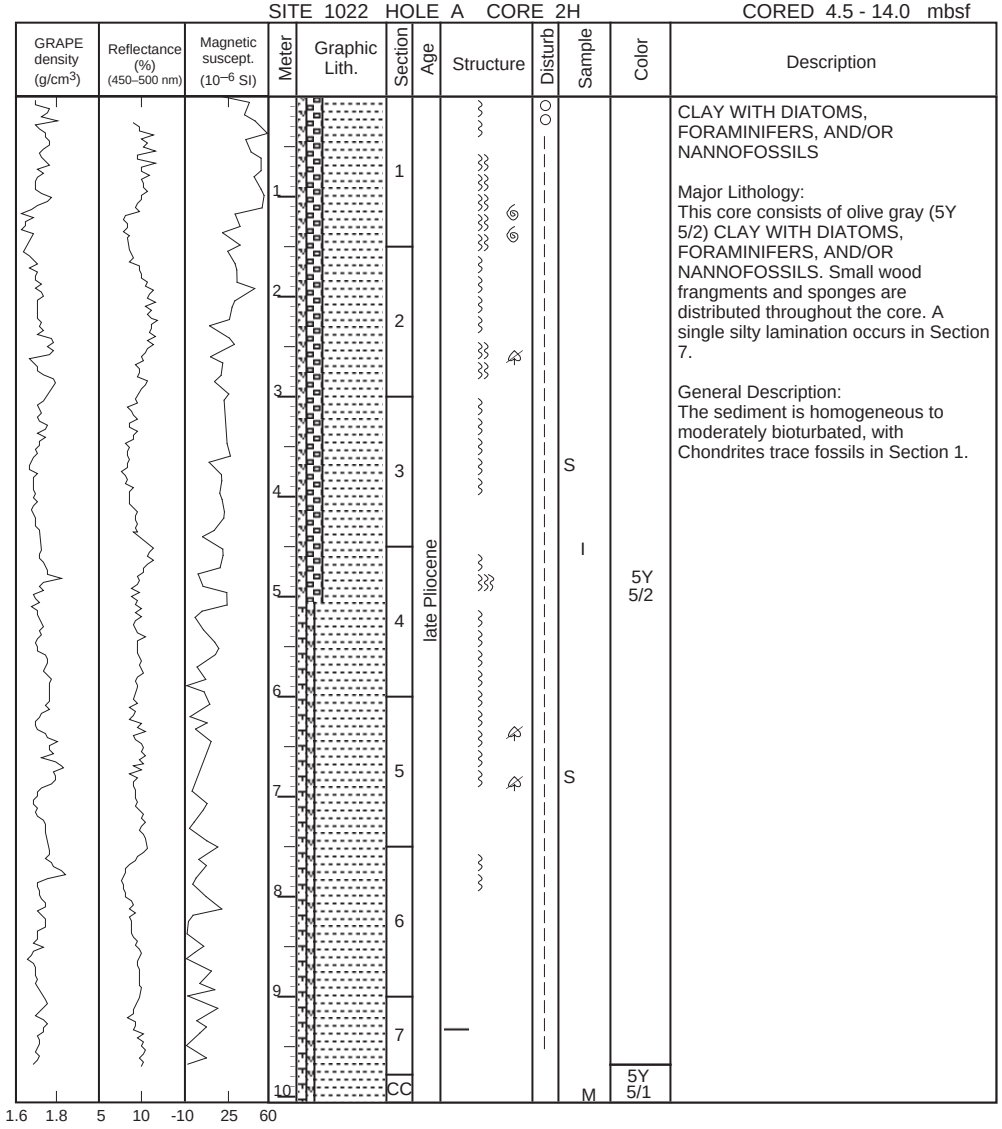
CLAY WITH DIATOMS, SILT, AND GLAUCONITE SAND and CLAY DIATOM MIXED SEDIMENT WITH SILT

Major Lithologies:
This core consists olive gray (5Y 4/2 to 5Y 5/2) to gray (5Y 5/1) CLAY DIATOM MIXED SEDIMENT WITH SILT and CLAY WITH DIATOMS, SILT, AND GLAUCONITE SAND. A 2-cm diameter wood fragment is present near the base of Section 2. White sponge fragments are present throughout the core.

Minor Lithology:
Burrows are filled with greenish black QUARTZ GLAUCONITE SILTY SAND to produced abundant coarse-grained pods in Section 1.

General Description:
The core is heavily bioturbated at the top with 1-2 cm diameter, sand and glauconite-filled and open burrows.

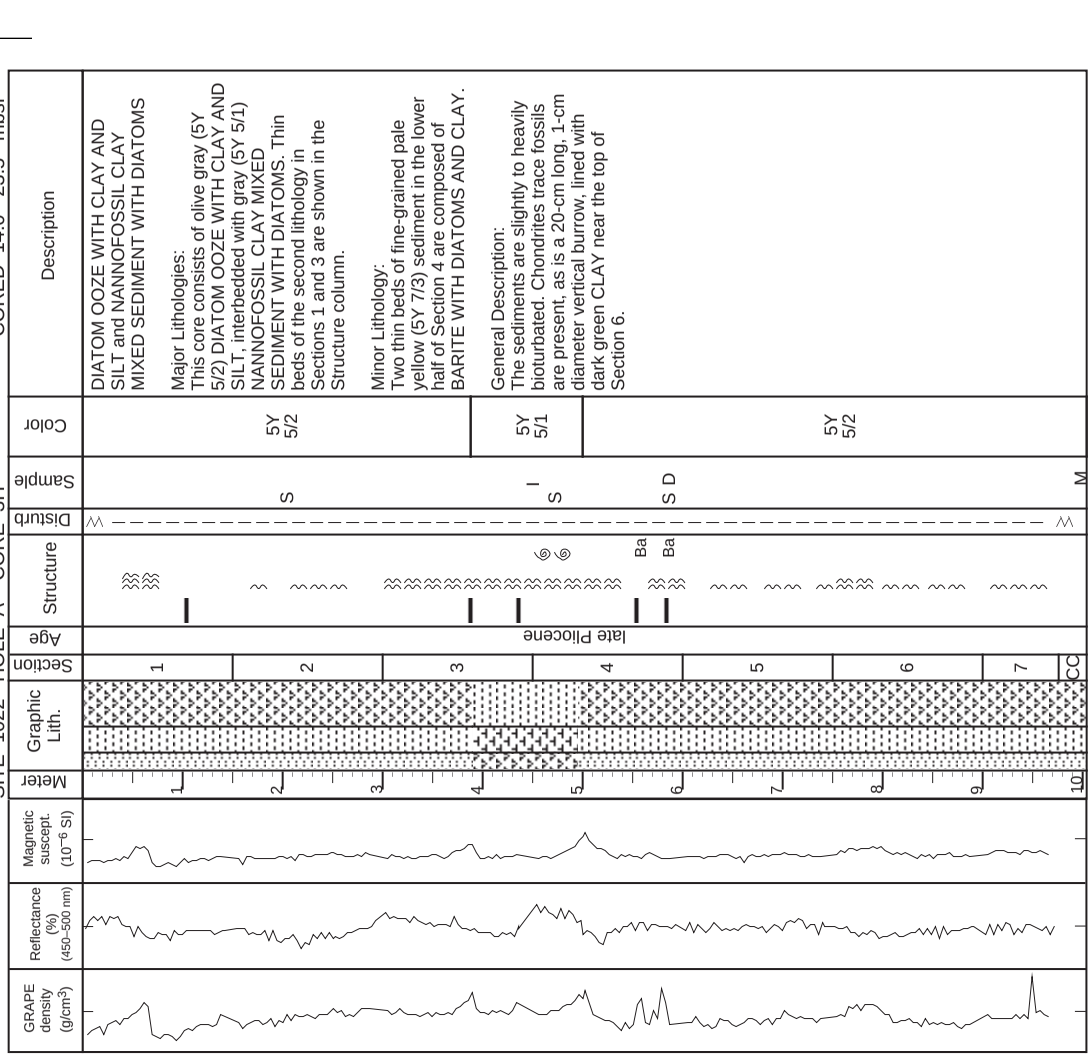
SITE 1022 HOLE A CORE 2H CORED 4.5 - 14.0 mbsf



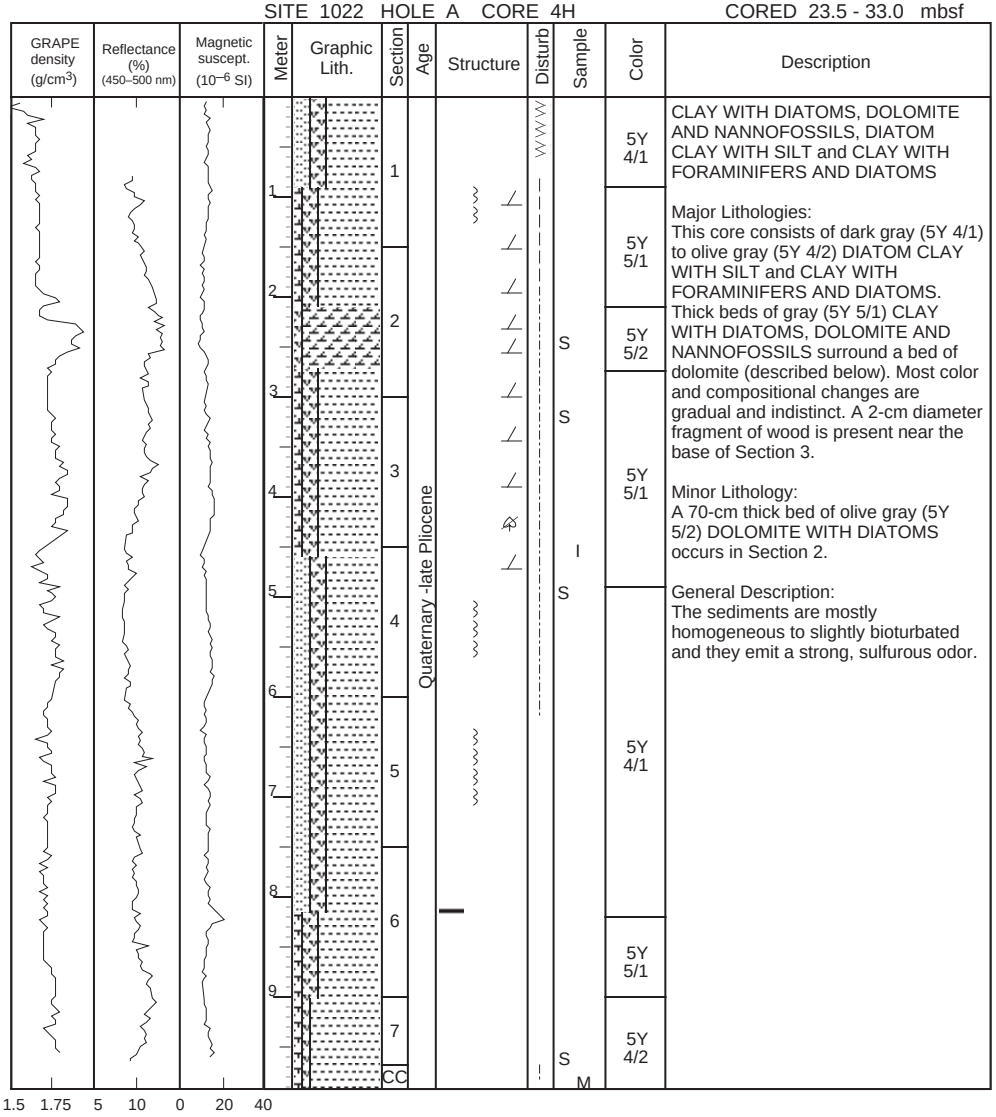
CLAY WITH DIATOMS, FORAMINIFERS, AND/OR NANNOFOSSILS

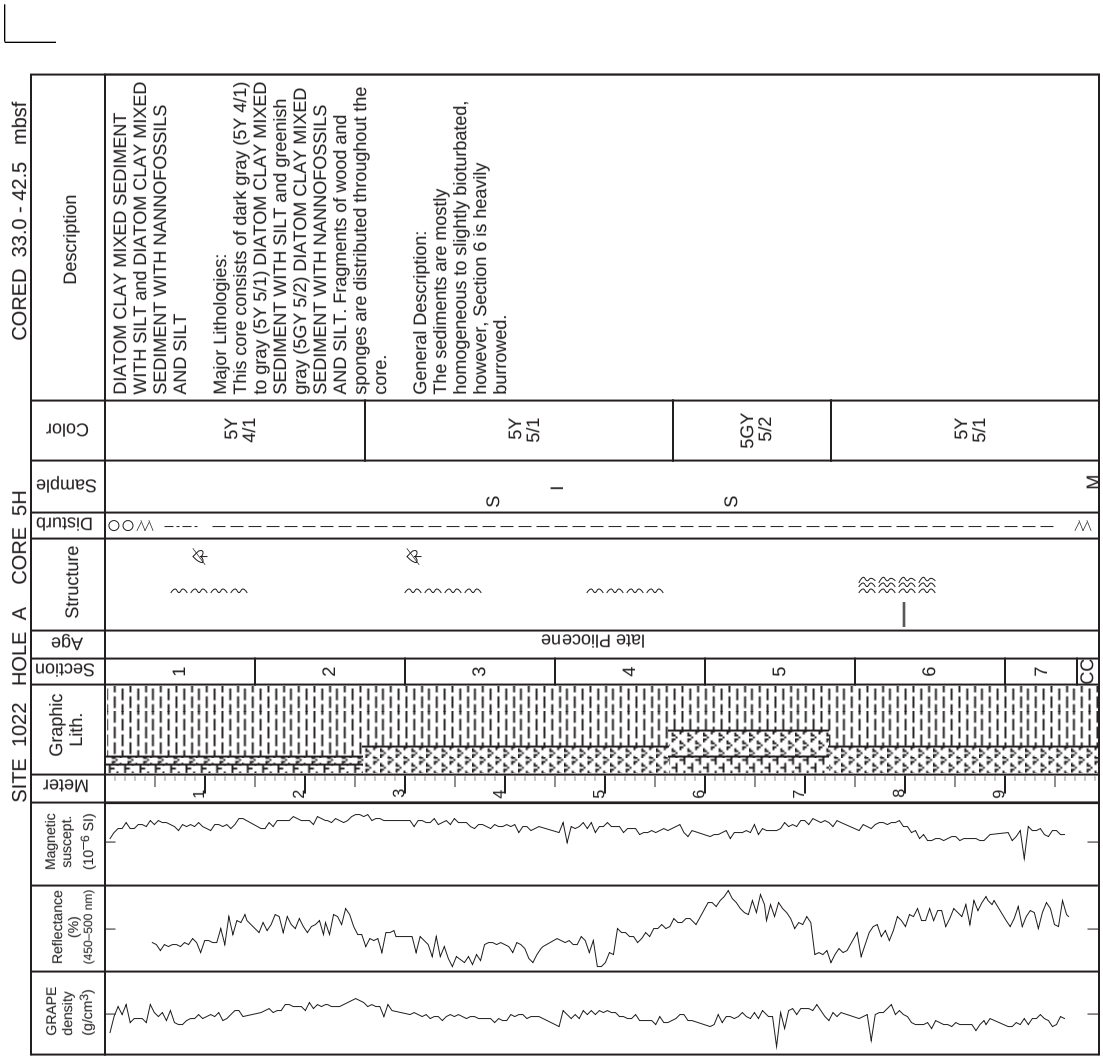
Major Lithology:
This core consists of olive gray (5Y 5/2) CLAY WITH DIATOMS, FORAMINIFERS, AND/OR NANNOFOSSILS. Small wood frangments and sponges are distributed throughout the core. A single silty lamination occurs in Section 7.

General Description:
The sediment is homogeneous to moderately bioturbated, with Chondrites trace fossils in Section 1.

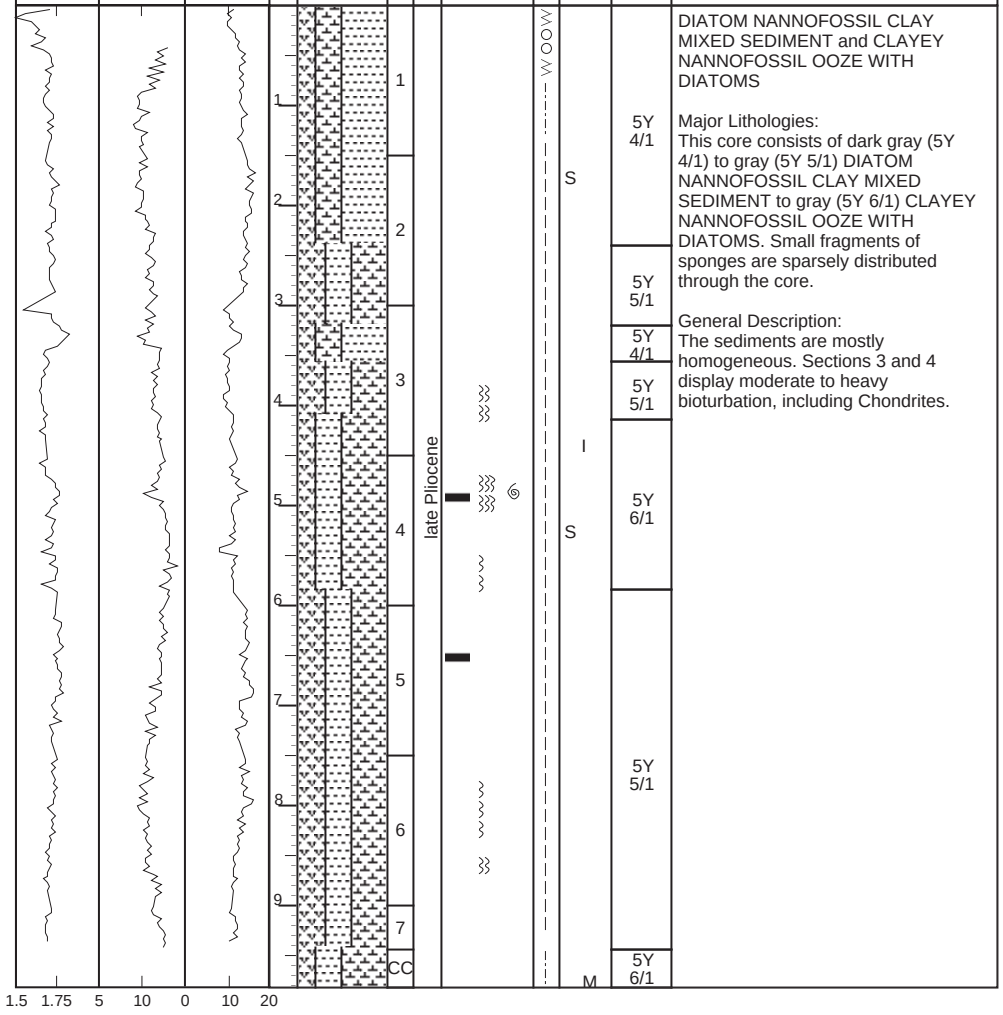

SITE 1022 HOLE A CORE 3H CORED 14.0 - 23.5 mbsf
GRAPE density (g/cm³)
Reflectance (%) (450–500 nm)
Magnetic suscept. (10⁻⁶ SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
late Pliocene
Ba
Ba
S
I
S
S D
M
5Y 5/2
5Y 5/1
5Y 5/2
DIATOM OOZE WITH CLAY AND SILT and NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS
Major Lithologies:
This core consists of olive gray (5Y 5/2) DIATOM OOZE WITH CLAY AND SILT, interbedded with gray (5Y 5/1) NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS. Thin beds of the second lithology in Sections 1 and 3 are shown in the Structure column.
Minor Lithology:
Two thin beds of fine-grained pale yellow (5Y 7/3) sediment in the lower half of Section 4 are composed of BARITE WITH DIATOMS AND CLAY.
General Description:
The sediments are slightly to heavily bioturbated. Chondrites trace fossils are present, as is a 20-cm long, 1-cm diameter vertical burrow, lined with dark green CLAY near the top of Section 6.

SITE 1022 HOLE A CORE 4H CORED 23.5 - 33.0 mbsf




SITE 1022 HOLE A CORE 5H CORED 33.0 - 42.5 mbsf
GRAPE density (g/cm³)
Reflectance (%) (450–500 nm)
Magnetic suscept. (10⁻⁶ SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
late Pliocene
5Y 4/1
5Y 5/1
5GY 5/2
5Y 5/1
DIATOM CLAY MIXED SEDIMENT WITH SILT and DIATOM CLAY MIXED SEDIMENT WITH NANNOFOSSILS AND SILT
Major Lithologies:
This core consists of dark gray (5Y 4/1) to gray (5Y 5/1) DIATOM CLAY MIXED SEDIMENT WITH SILT and greenish gray (5GY 5/2) DIATOM CLAY MIXED SEDIMENT WITH NANNOFOSSILS AND SILT. Fragments of wood and sponges are distributed throughout the core.
General Description:
The sediments are mostly homogeneous to slightly bioturbated, however, Section 6 is heavily burrowed.

SITE 1022 HOLE A CORE 6H CORED 42.5 - 52.0 mbsf

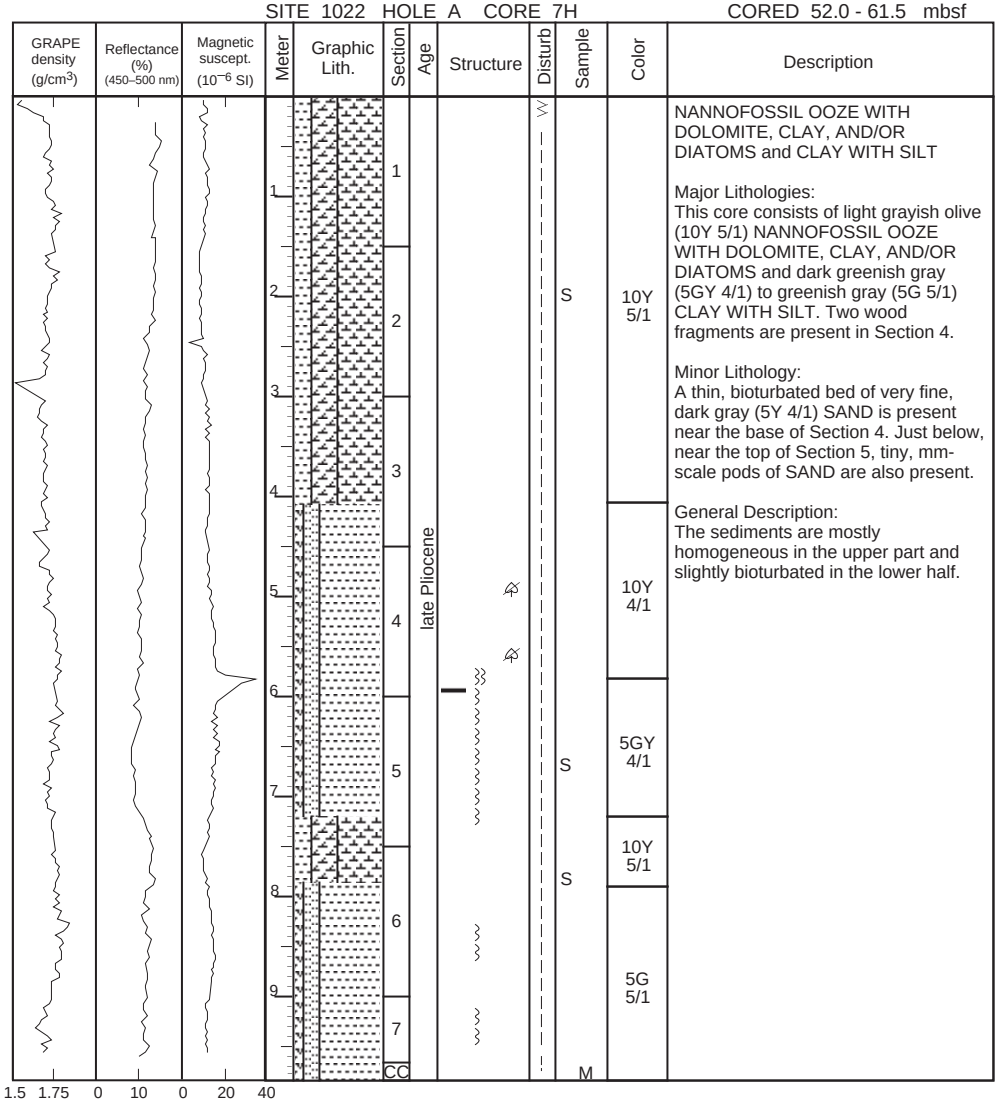


DIATOM NANNOFOSSIL CLAY MIXED SEDIMENT and CLAYEY NANNOFOSSIL OOZE WITH DIATOMS

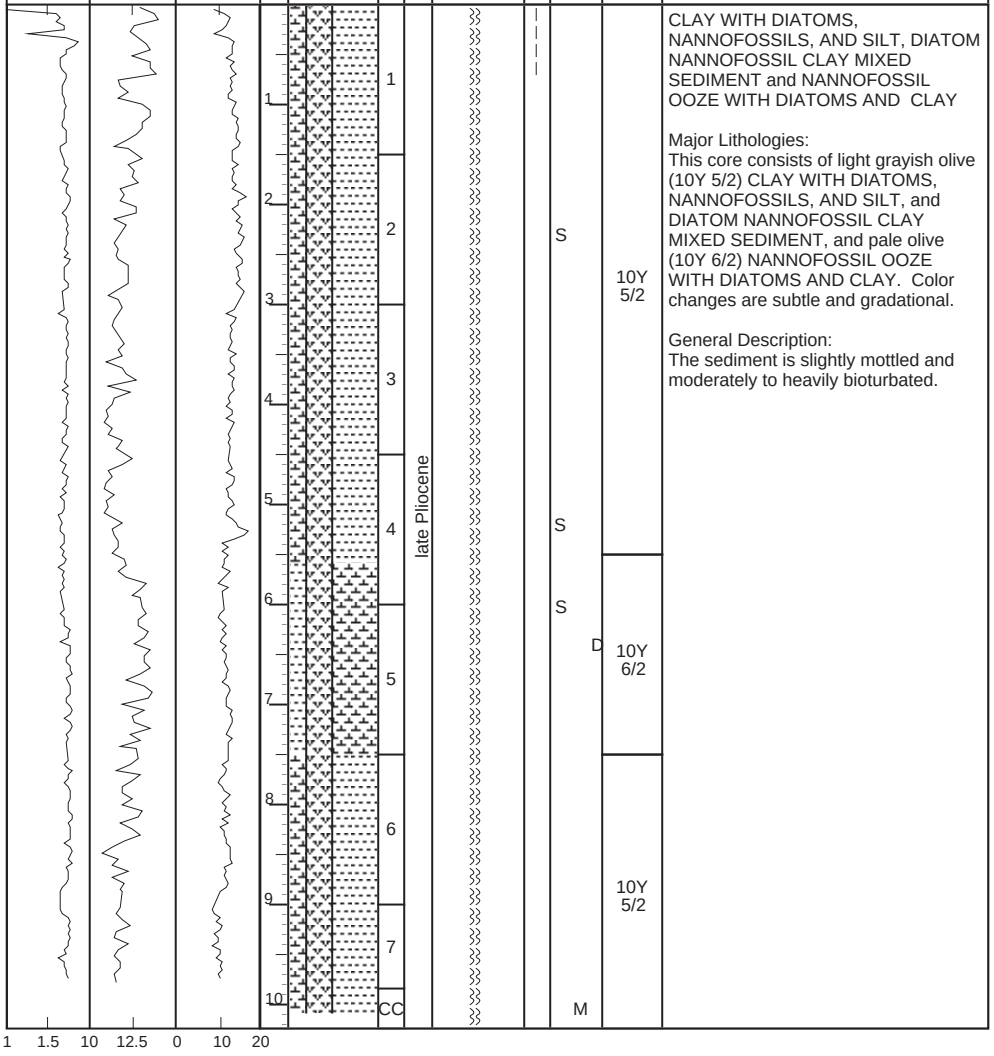
Major Lithologies:
This core consists of dark gray (5Y 4/1) to gray (5Y 5/1) DIATOM NANNOFOSSIL CLAY MIXED SEDIMENT to gray (5Y 6/1) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS. Small fragments of sponges are sparsely distributed through the core.

General Description:
The sediments are mostly homogeneous. Sections 3 and 4 display moderate to heavy bioturbation, including Chondrites.

SITE 1022 HOLE A CORE 7H CORED 52.0 - 61.5 mbsf



SITE 1022 HOLE A CORE 8H CORED 61.5 - 71.0 mbsf

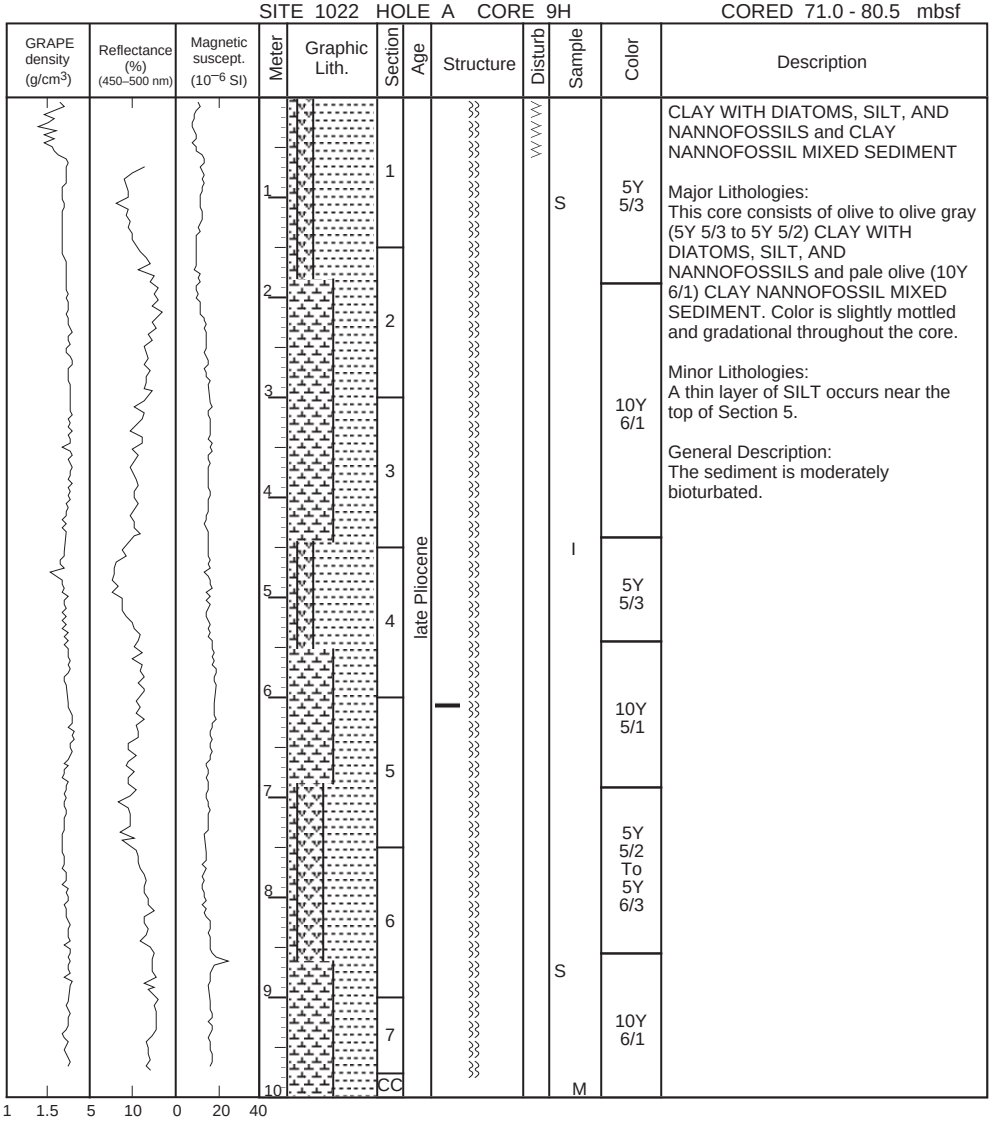


CLAY WITH DIATOMS, NANNOFOSSILS, AND SILT, DIATOM NANNOFOSSIL CLAY MIXED SEDIMENT and NANNOFOSSIL OOZE WITH DIATOMS AND CLAY

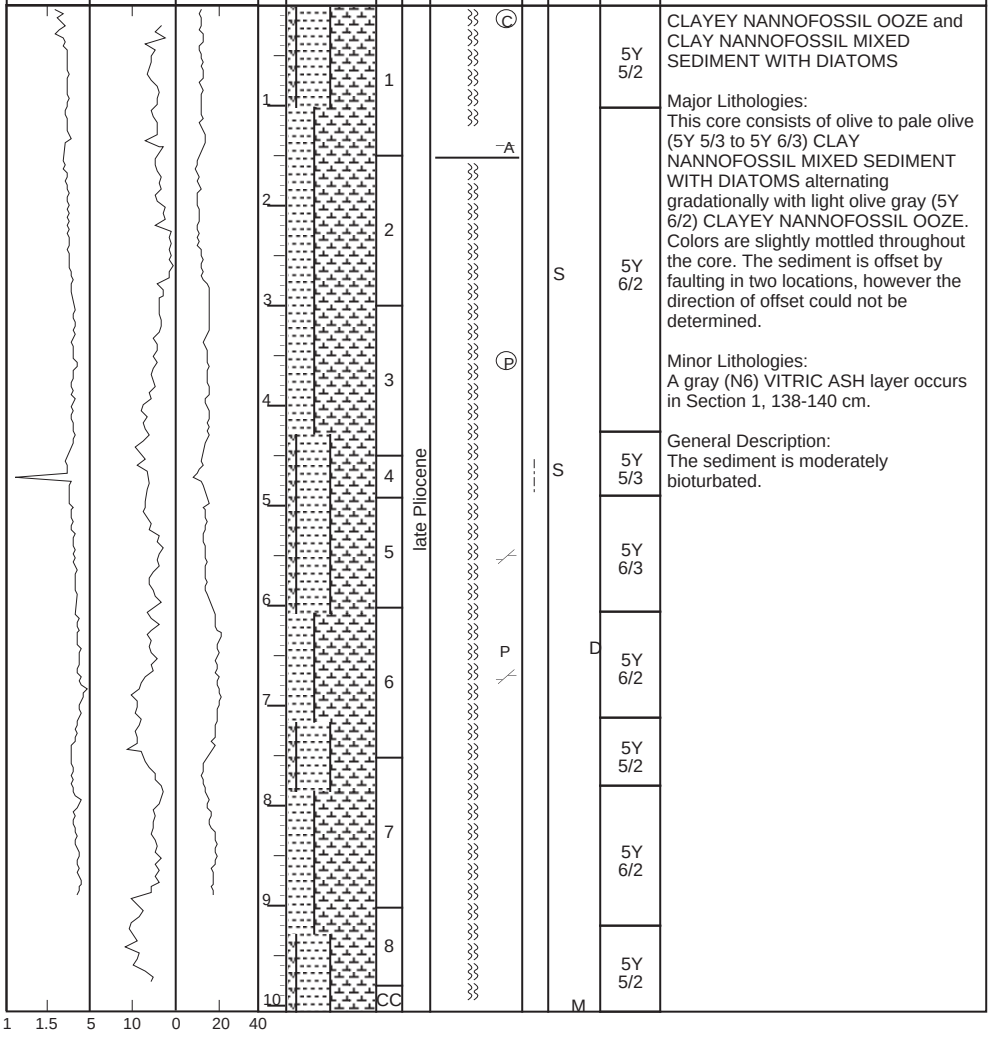
Major Lithologies:
This core consists of light grayish olive (10Y 5/2) CLAY WITH DIATOMS, NANNOFOSSILS, AND SILT, and DIATOM NANNOFOSSIL CLAY MIXED SEDIMENT, and pale olive (10Y 6/2) NANNOFOSSIL OOZE WITH DIATOMS AND CLAY. Color changes are subtle and gradational.

General Description:
The sediment is slightly mottled and moderately to heavily bioturbated.

SITE 1022 HOLE A CORE 9H CORED 71.0 - 80.5 mbsf



SITE 1022 HOLE A CORE 10H CORED 80.5 - 90.0 mbsf



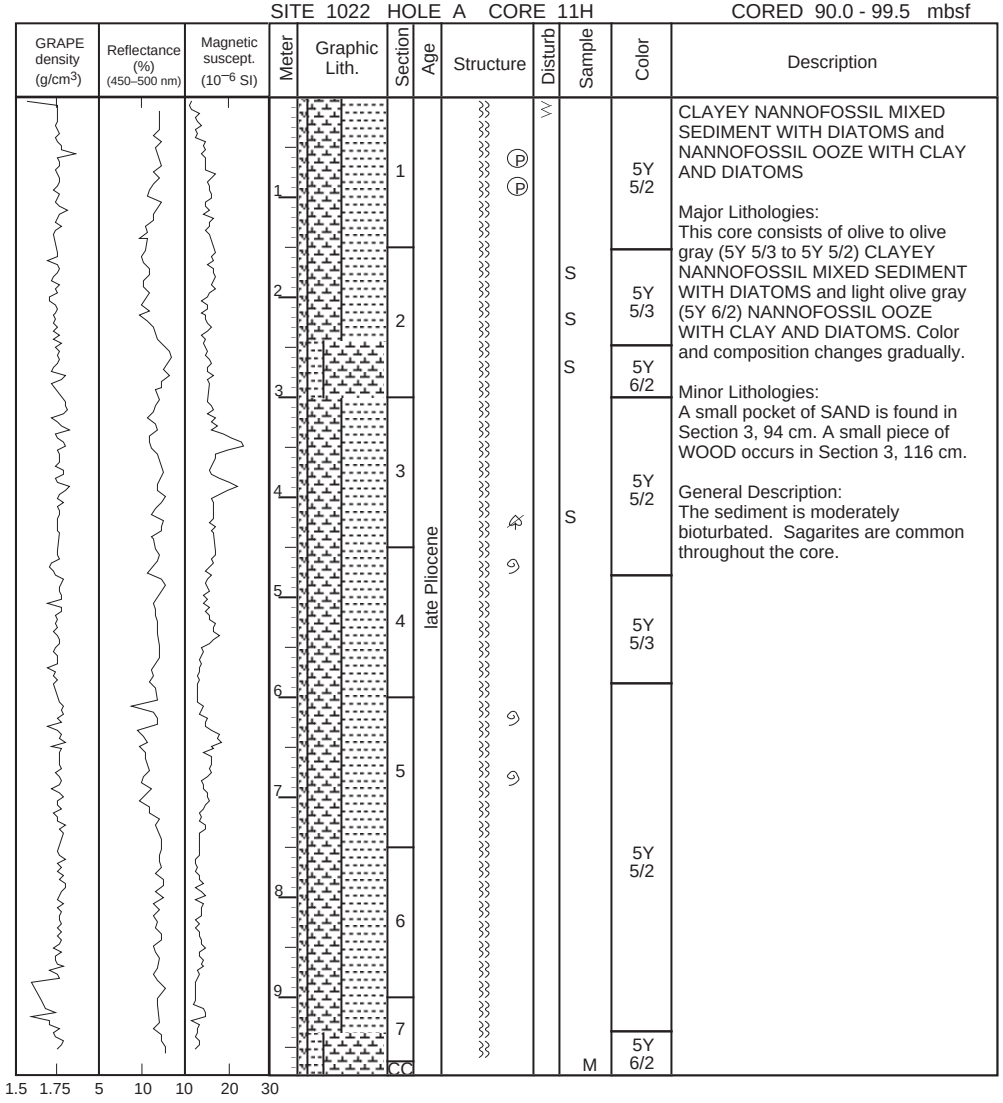
CLAYEY NANNOFOSSIL OOZE and CLAY NANNOFOSSIL MIXED SEDIMENT WITH DIATOMS

Major Lithologies:
This core consists of olive to pale olive (5Y 5/3 to 5Y 6/3) CLAY NANNOFOSSIL MIXED SEDIMENT WITH DIATOMS alternating gradationally with light olive gray (5Y 6/2) CLAYEY NANNOFOSSIL OOZE. Colors are slightly mottled throughout the core. The sediment is offset by faulting in two locations, however the direction of offset could not be determined.

Minor Lithologies:
A gray (N6) VITRIC ASH layer occurs in Section 1, 138-140 cm.

General Description:
The sediment is moderately bioturbated.

SITE 1022 HOLE A CORE 11H CORED 90.0 - 99.5 mbsf

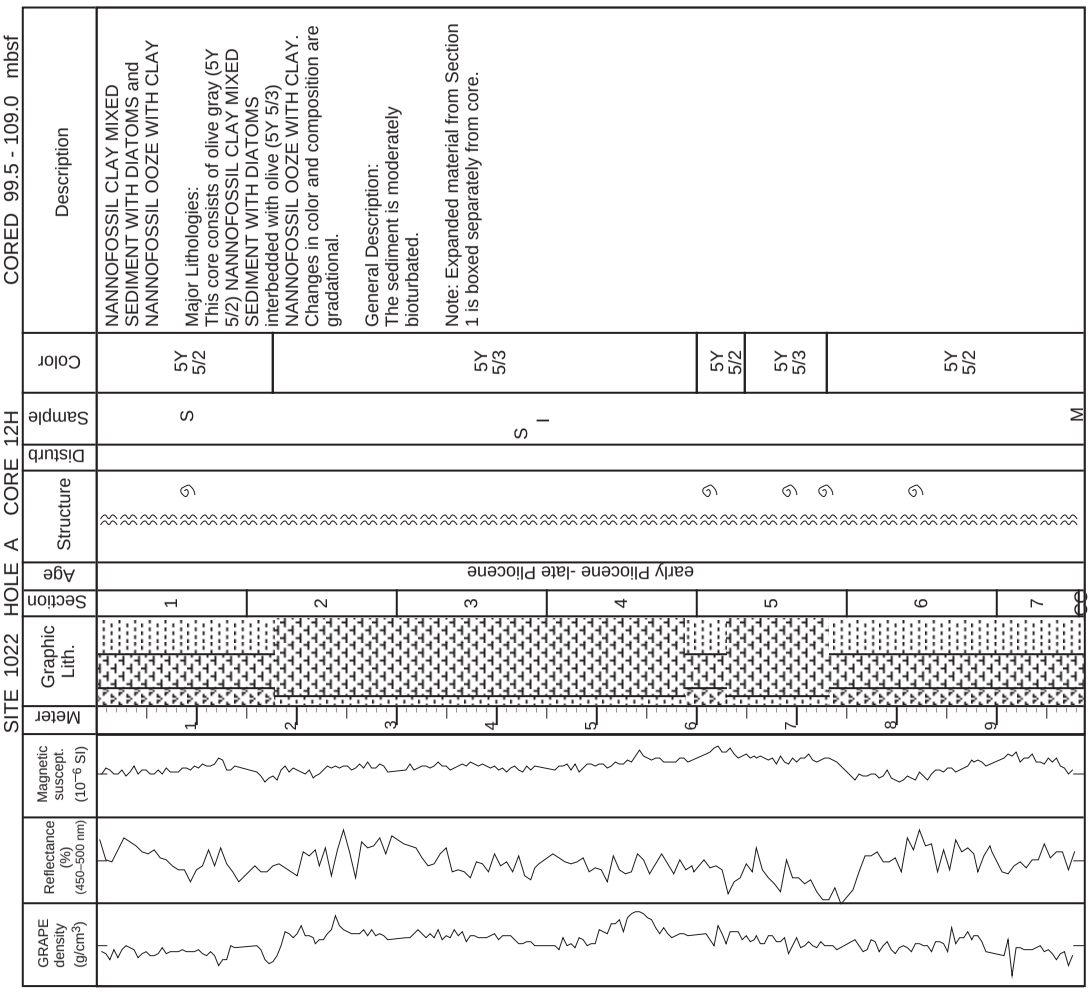


CLAYEY NANNOFOSSIL MIXED SEDIMENT WITH DIATOMS and NANNOFOSSIL OOZE WITH CLAY AND DIATOMS

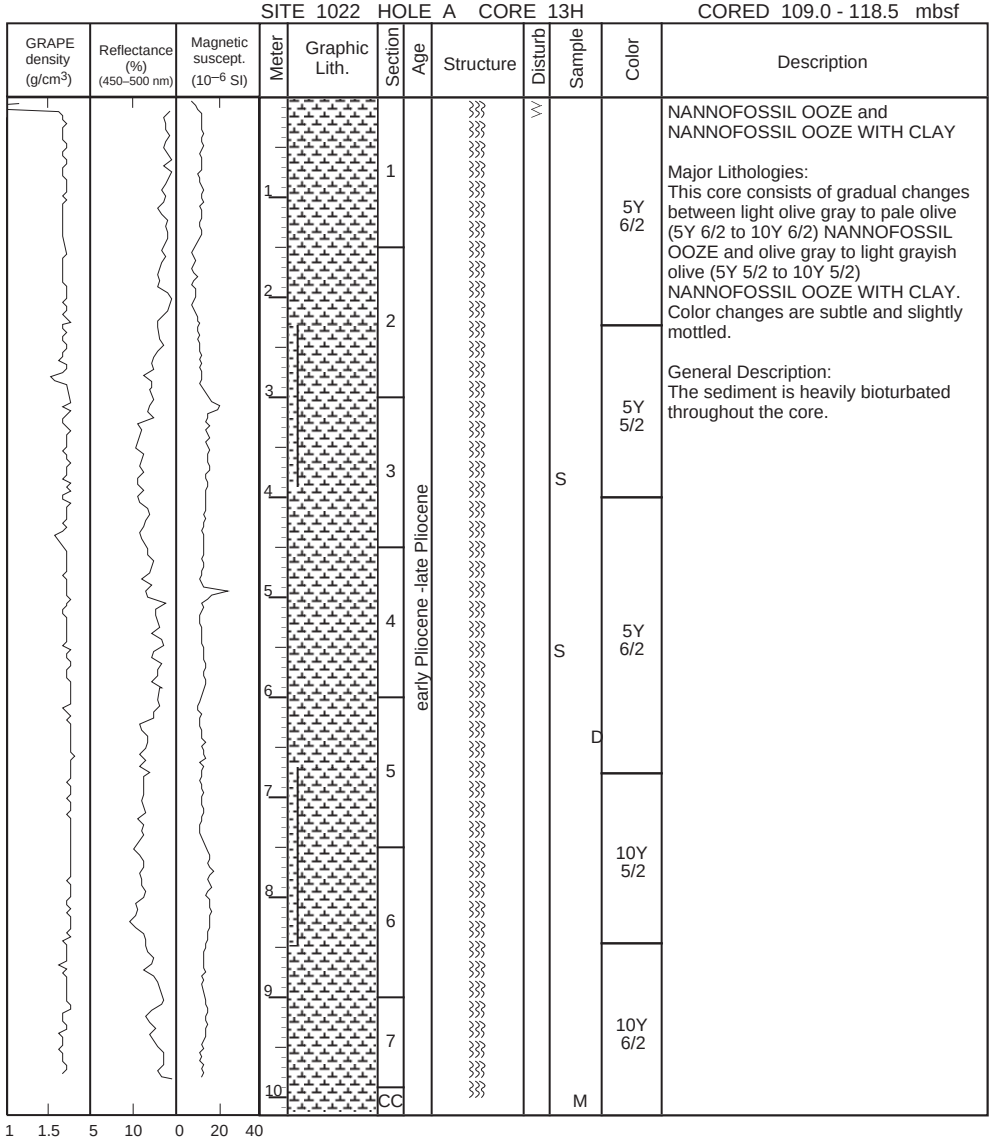
Major Lithologies:
This core consists of olive to olive gray (5Y 5/3 to 5Y 5/2) CLAYEY NANNOFOSSIL MIXED SEDIMENT WITH DIATOMS and light olive gray (5Y 6/2) NANNOFOSSIL OOZE WITH CLAY AND DIATOMS. Color and composition changes gradually.

Minor Lithologies:
A small pocket of SAND is found in Section 3, 94 cm. A small piece of WOOD occurs in Section 3, 116 cm.

General Description:
The sediment is moderately bioturbated. Sagarites are common throughout the core.


SITE 1022 HOLE A CORE 12H CORED 99.5 - 109.0 mbsf
GRAPE density (g/cm3)
Reflectance (%) (450–500 nm)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
early Pliocene -late Pliocene
NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS and NANNOFOSSIL OOZE WITH CLAY
Major Lithologies:
This core consists of olive gray (5Y 5/2) NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS interbedded with olive (5Y 5/3) NANNOFOSSIL OOZE WITH CLAY. Changes in color and composition are gradational.
General Description:
The sediment is moderately bioturbated.
Note: Expanded material from Section 1 is boxed separately from core.
5Y 5/2
5Y 5/3
5Y 5/2
5Y 5/3
5Y 5/2
S
I
M
CC

SITE 1022 HOLE A CORE 13H CORED 109.0 - 118.5 mbsf

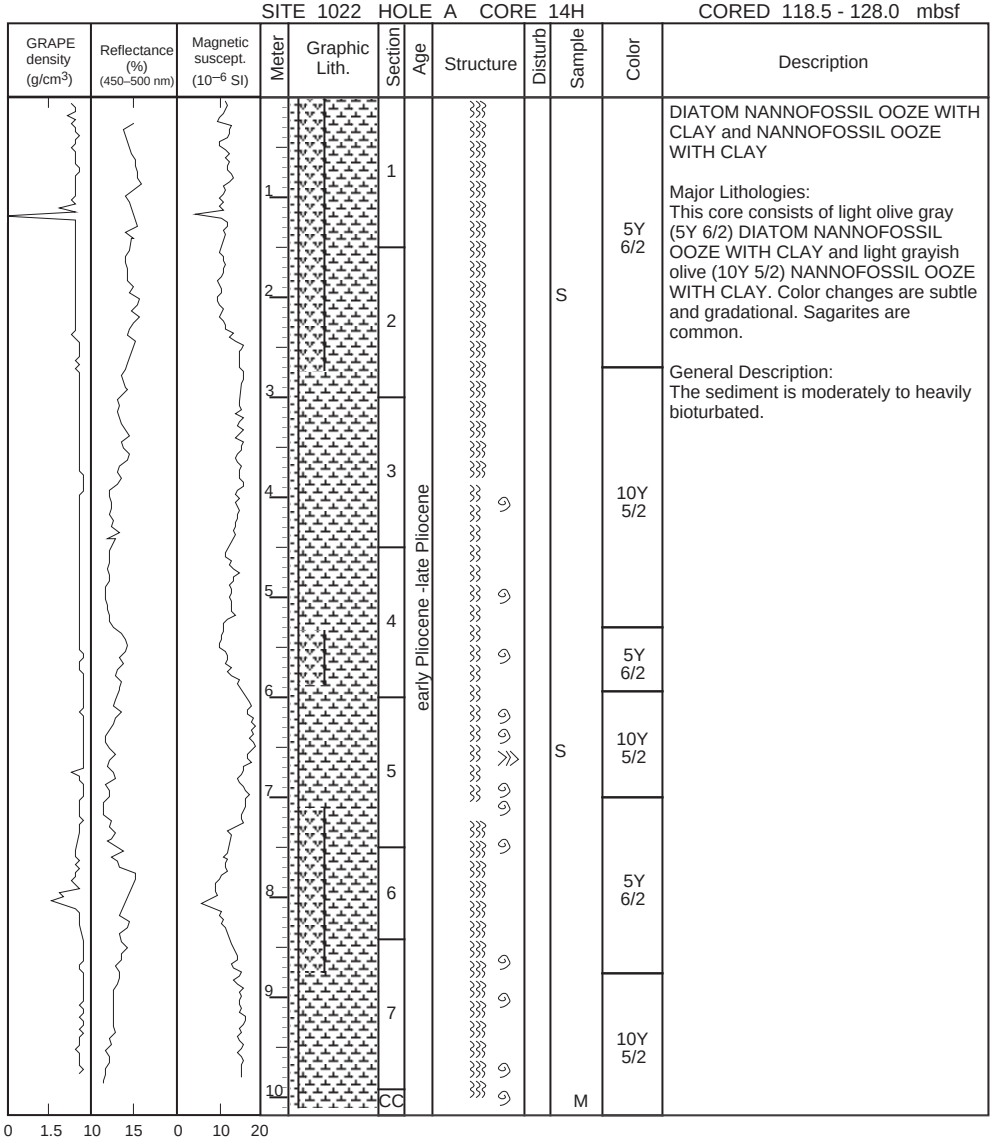


NANNOFOSSIL OOZE and NANNOFOSSIL OOZE WITH CLAY

Major Lithologies:
This core consists of gradual changes between light olive gray to pale olive (5Y 6/2 to 10Y 6/2) NANNOFOSSIL OOZE and olive gray to light grayish olive (5Y 5/2 to 10Y 5/2) NANNOFOSSIL OOZE WITH CLAY. Color changes are subtle and slightly mottled.

General Description:
The sediment is heavily bioturbated throughout the core.

SITE 1022 HOLE A CORE 14H CORED 118.5 - 128.0 mbsf

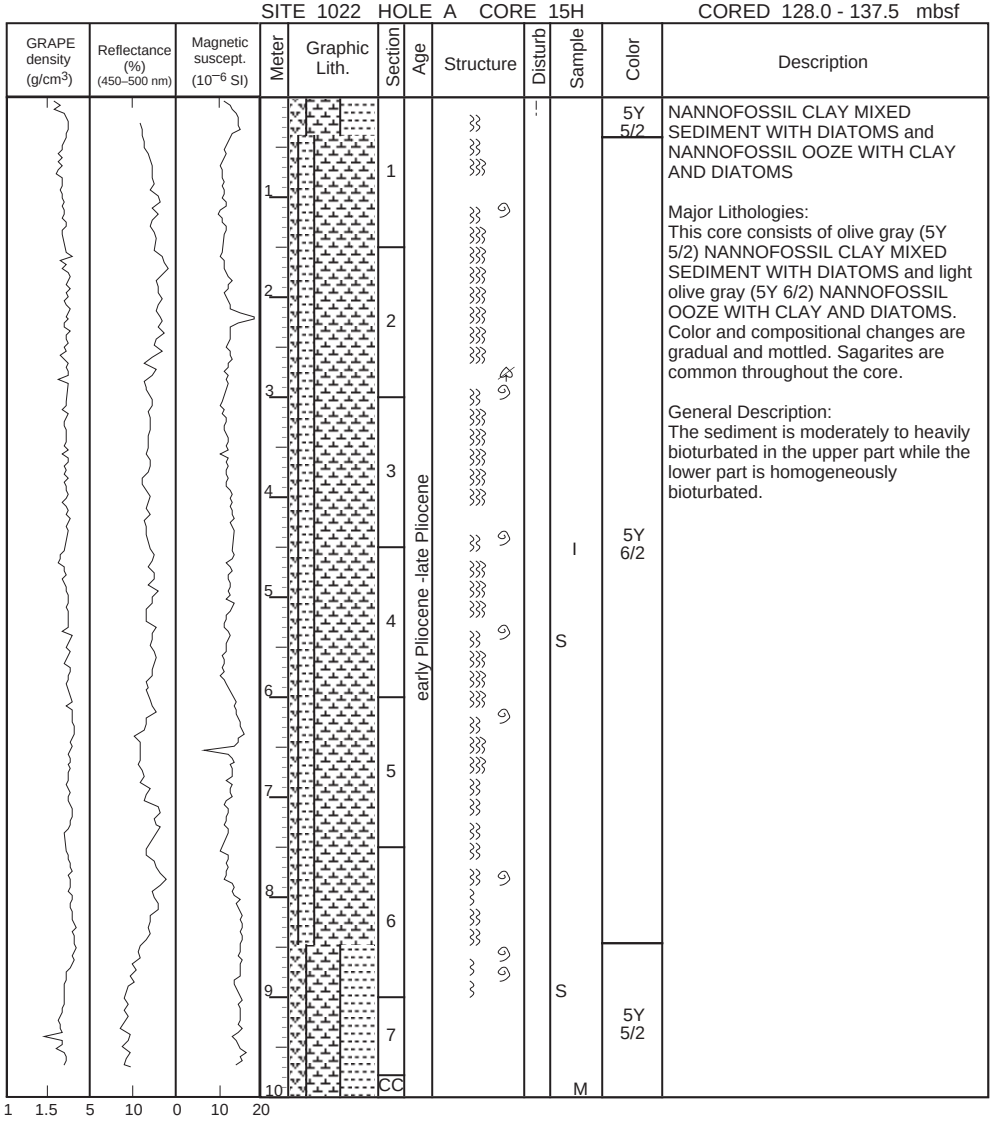


DIATOM NANNOFOSSIL OOZE WITH CLAY and NANNOFOSSIL OOZE WITH CLAY

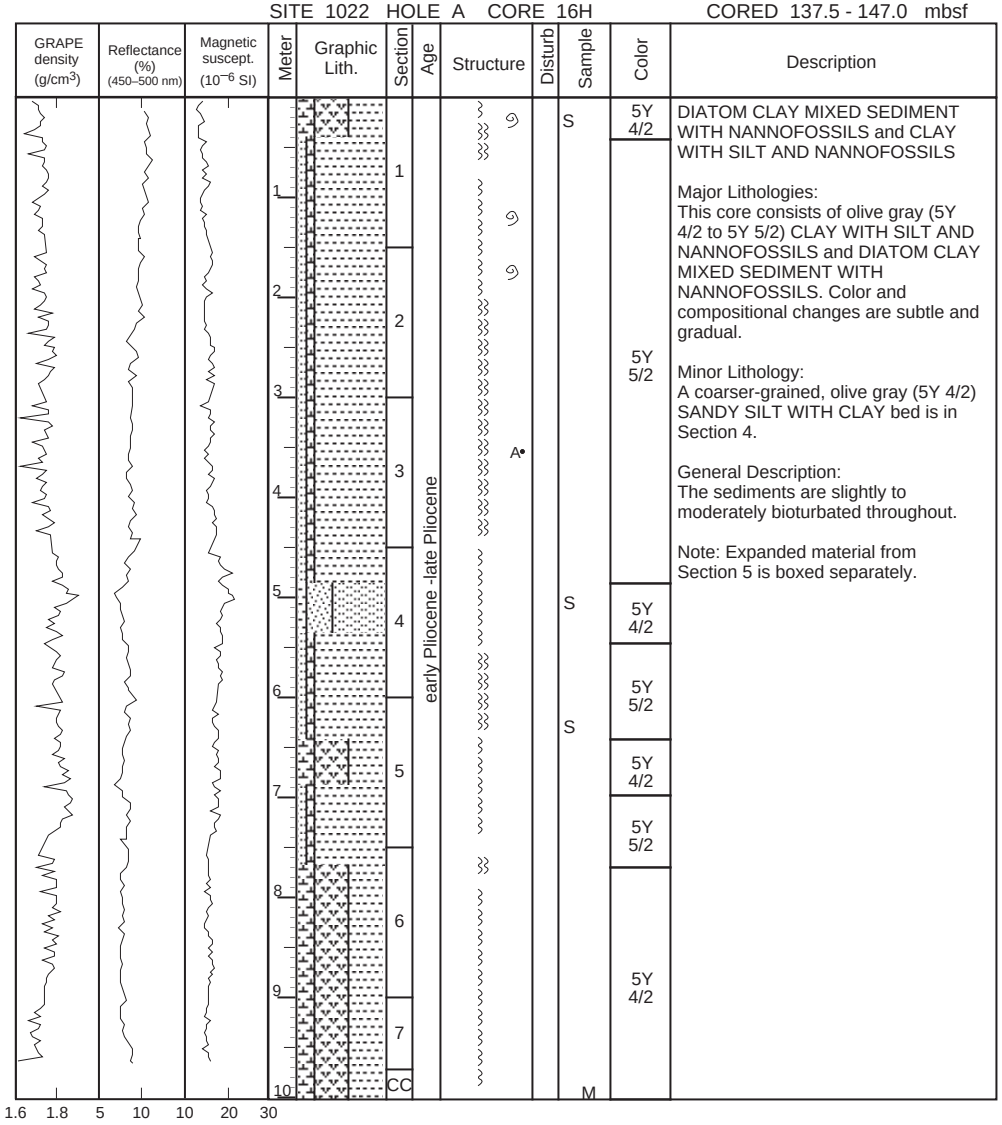
Major Lithologies:
This core consists of light olive gray (5Y 6/2) DIATOM NANNOFOSSIL OOZE WITH CLAY and light grayish olive (10Y 5/2) NANNOFOSSIL OOZE WITH CLAY. Color changes are subtle and gradational. Sagarites are common.

General Description:
The sediment is moderately to heavily bioturbated.

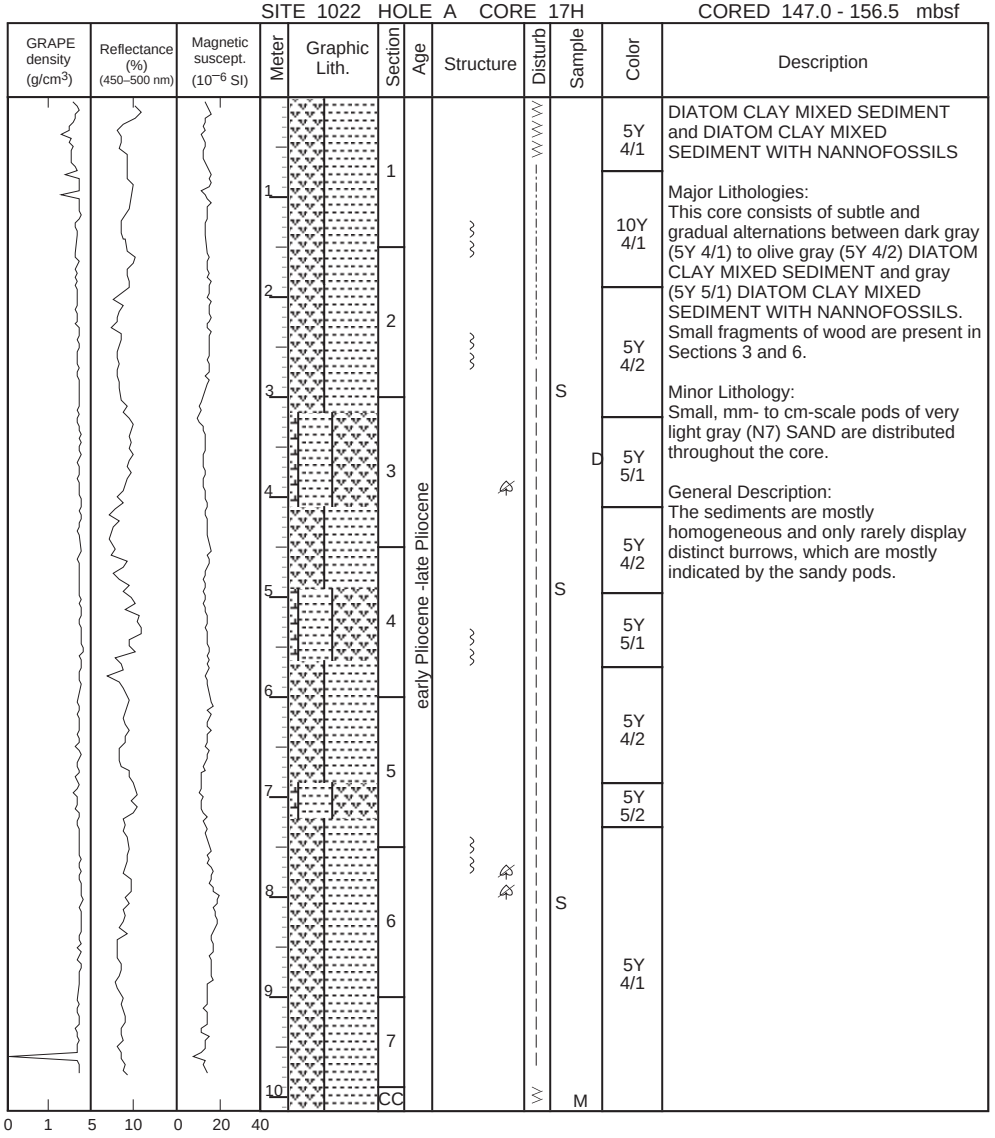
SITE 1022 HOLE A CORE 15H CORED 128.0 - 137.5 mbsf



SITE 1022 HOLE A CORE 16H CORED 137.5 - 147.0 mbsf



SITE 1022 HOLE A CORE 17H CORED 147.0 - 156.5 mbsf



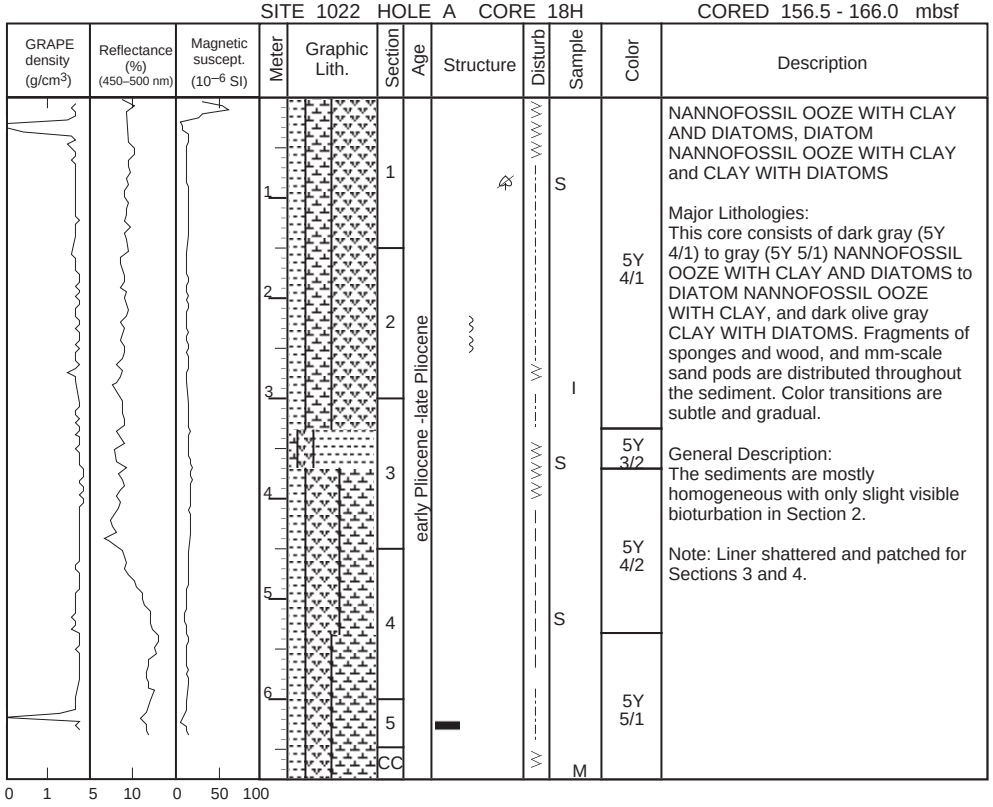
DIATOM CLAY MIXED SEDIMENT and DIATOM CLAY MIXED SEDIMENT WITH NANNOFOSSILS

Major Lithologies:
This core consists of subtle and gradual alternations between dark gray (5Y 4/1) to olive gray (5Y 4/2) DIATOM CLAY MIXED SEDIMENT and gray (5Y 5/1) DIATOM CLAY MIXED SEDIMENT WITH NANNOFOSSILS. Small fragments of wood are present in Sections 3 and 6.

Minor Lithology:
Small, mm- to cm-scale pods of very light gray (N7) SAND are distributed throughout the core.

General Description:
The sediments are mostly homogeneous and only rarely display distinct burrows, which are mostly indicated by the sandy pods.

SITE 1022 HOLE A CORE 18H CORED 156.5 - 166.0 mbsf

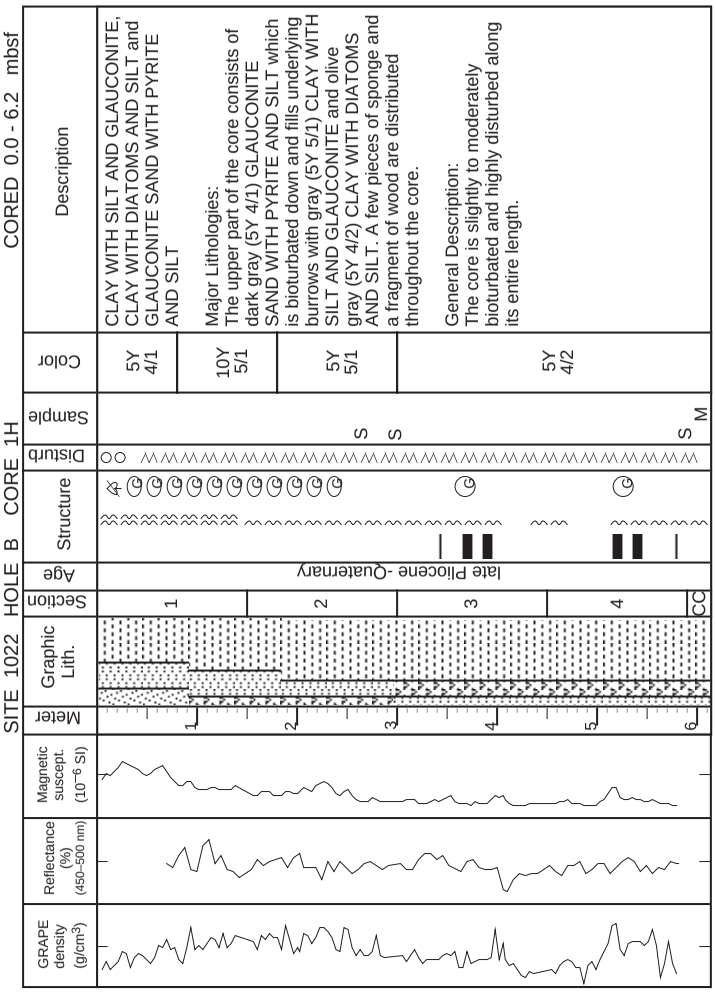


NANNOFOSSIL OOZE WITH CLAY AND DIATOMS, DIATOM NANNOFOSSIL OOZE WITH CLAY and CLAY WITH DIATOMS

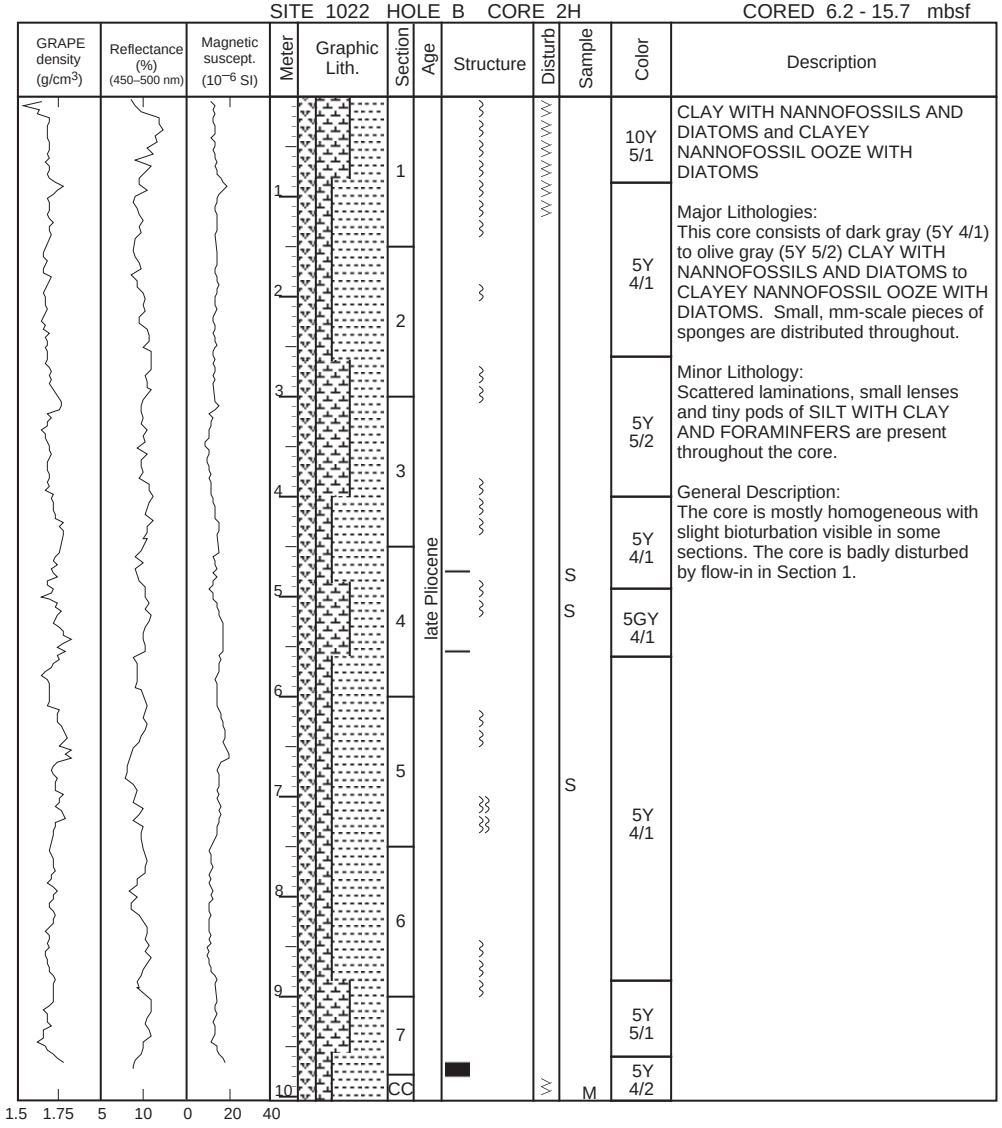
Major Lithologies:
This core consists of dark gray (5Y 4/1) to gray (5Y 5/1) NANNOFOSSIL OOZE WITH CLAY AND DIATOMS to DIATOM NANNOFOSSIL OOZE WITH CLAY, and dark olive gray CLAY WITH DIATOMS. Fragments of sponges and wood, and mm-scale sand pods are distributed throughout the sediment. Color transitions are subtle and gradual.

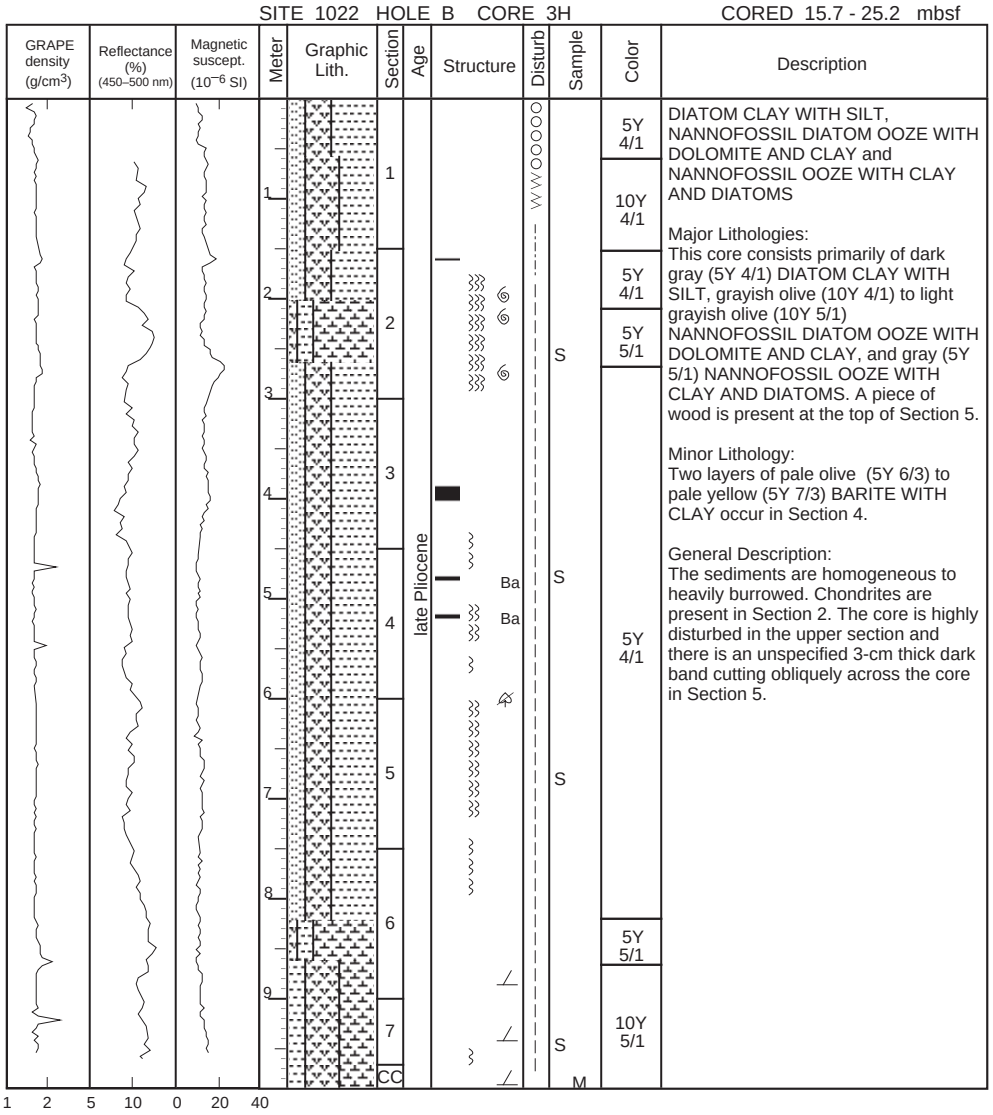
General Description:
The sediments are mostly homogeneous with only slight visible bioturbation in Section 2.

Note: Liner shattered and patched for Sections 3 and 4.

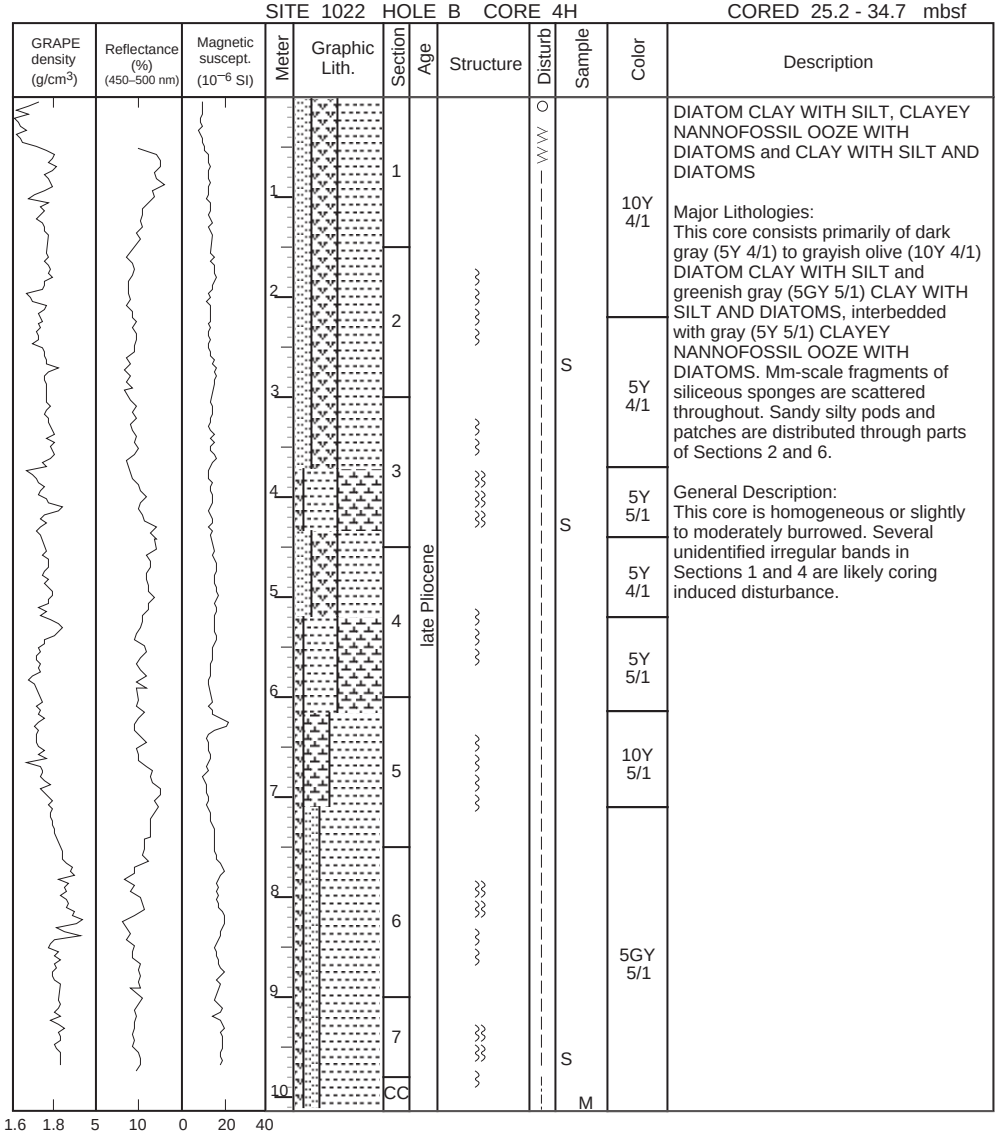

SITE 1022 HOLE B CORE 1H CORED 0.0 - 6.2 mbsf
GRAPE density (g/cm3)
Reflectance (%) (450–500 nm)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
late Pliocene -Quaternary
5Y 4/1
10Y 5/1
5Y 5/1
5Y 4/2
CLAY WITH SILT AND GLAUCONITE, CLAY WITH DIATOMS AND SILT and GLAUCONITE SAND WITH PYRITE AND SILT
Major Lithologies:
The upper part of the core consists of dark gray (5Y 4/1) GLAUCONITE SAND WITH PYRITE AND SILT which is bioturbated down and fills underlying burrows with gray (5Y 5/1) CLAY WITH SILT AND GLAUCONITE and olive gray (5Y 4/2) CLAY WITH DIATOMS AND SILT. A few pieces of sponge and a fragment of wood are distributed throughout the core.
General Description:
The core is slightly to moderately bioturbated and highly disturbed along its entire length.

SITE 1022 HOLE B CORE 2H CORED 6.2 - 15.7 mbsf



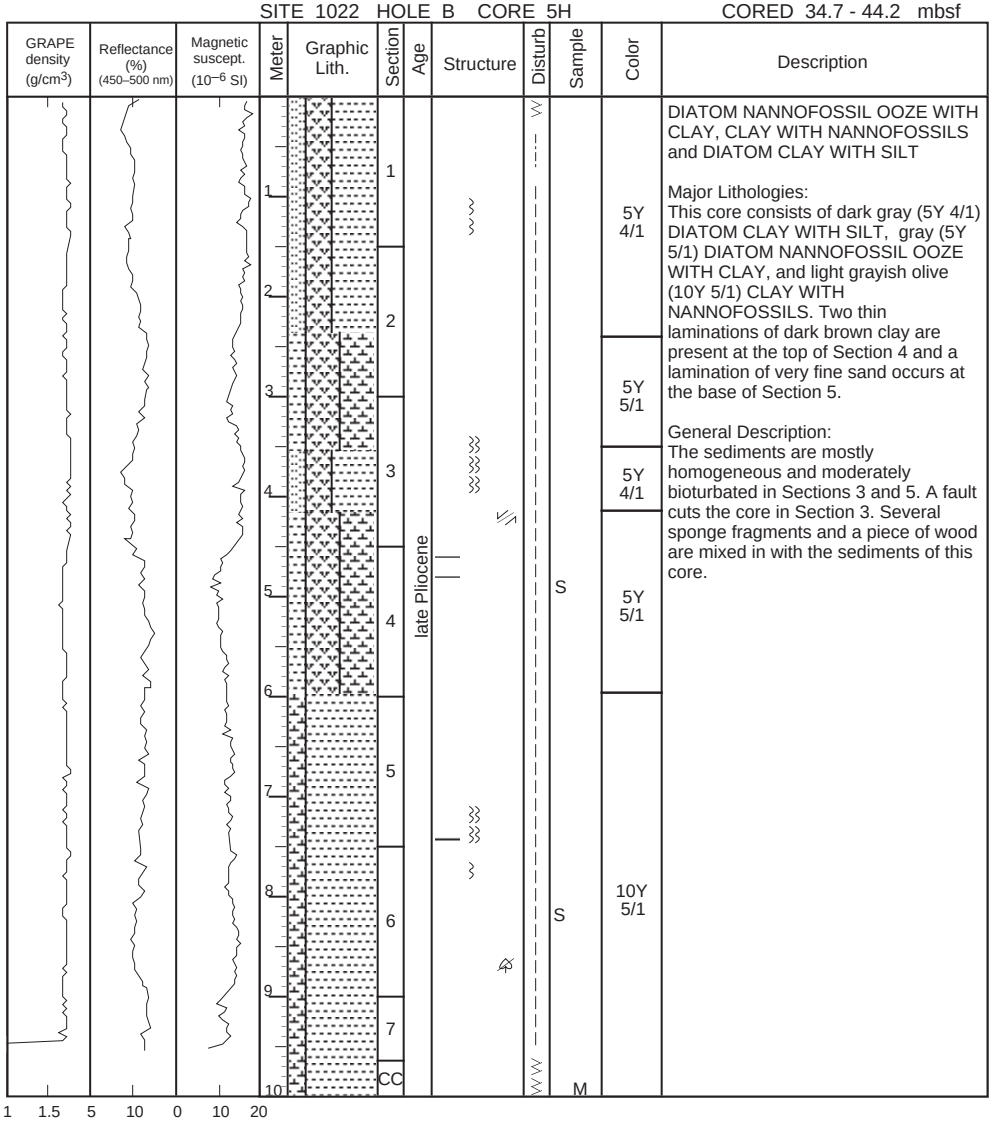

SITE 1022 HOLE B CORE 3H
CORED 15.7 - 25.2 mbsf
GRAPE density (g/cm3)
Reflectance (%) (450–500 nm)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
late Pliocene
Ba
Ba
S
S
S
S
M
5Y 4/1
10Y 4/1
5Y 4/1
5Y 5/1
5Y 4/1
5Y 5/1
10Y 5/1
DIATOM CLAY WITH SILT, NANNOFOSSIL DIATOM OOZE WITH DOLOMITE AND CLAY and NANNOFOSSIL OOZE WITH CLAY AND DIATOMS
Major Lithologies:
This core consists primarily of dark gray (5Y 4/1) DIATOM CLAY WITH SILT, grayish olive (10Y 4/1) to light grayish olive (10Y 5/1) NANNOFOSSIL DIATOM OOZE WITH DOLOMITE AND CLAY, and gray (5Y 5/1) NANNOFOSSIL OOZE WITH CLAY AND DIATOMS. A piece of wood is present at the top of Section 5.
Minor Lithology:
Two layers of pale olive (5Y 6/3) to pale yellow (5Y 7/3) BARITE WITH CLAY occur in Section 4.
General Description:
The sediments are homogeneous to heavily burrowed. Chondrites are present in Section 2. The core is highly disturbed in the upper section and there is an unspecified 3-cm thick dark band cutting obliquely across the core in Section 5.
1 2 5 10 0 20 40

SITE 1022 HOLE B CORE 4H CORED 25.2 - 34.7 mbsf



Description
DIATOM CLAY WITH SILT, CLAYEY NANNOFOSSIL OOZE WITH DIATOMS and CLAY WITH SILT AND DIATOMS Major Lithologies: This core consists primarily of dark gray (5Y 4/1) to grayish olive (10Y 4/1) DIATOM CLAY WITH SILT and greenish gray (5GY 5/1) CLAY WITH SILT AND DIATOMS, interbedded with gray (5Y 5/1) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS. Mm-scale fragments of siliceous sponges are scattered throughout. Sandy silty pods and patches are distributed through parts of Sections 2 and 6. General Description: This core is homogeneous or slightly to moderately burrowed. Several unidentified irregular bands in Sections 1 and 4 are likely coring induced disturbance.

SITE 1022 HOLE B CORE 5H CORED 34.7 - 44.2 mbsf

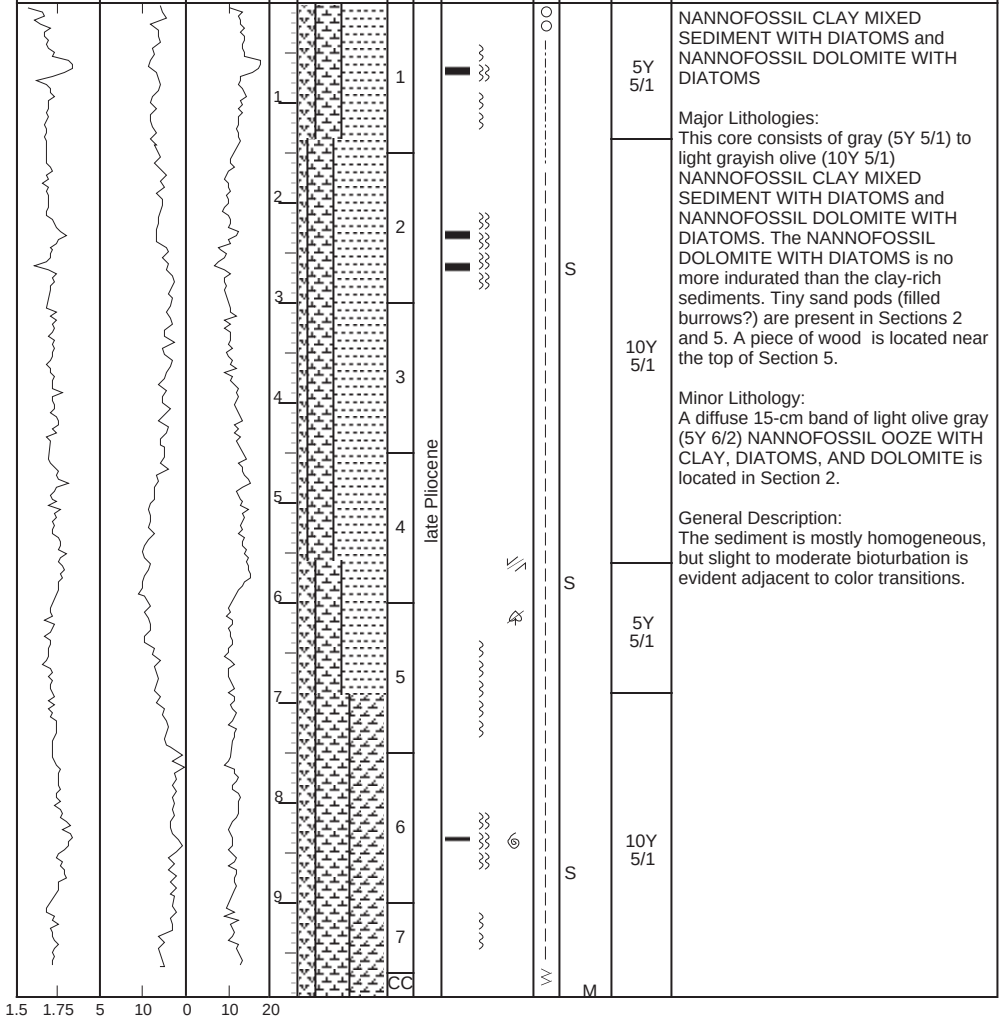


DIATOM NANNOFOSSIL OOZE WITH CLAY, CLAY WITH NANNOFOSSILS and DIATOM CLAY WITH SILT

Major Lithologies:
This core consists of dark gray (5Y 4/1) DIATOM CLAY WITH SILT, gray (5Y 5/1) DIATOM NANNOFOSSIL OOZE WITH CLAY, and light grayish olive (10Y 5/1) CLAY WITH NANNOFOSSILS. Two thin laminations of dark brown clay are present at the top of Section 4 and a lamination of very fine sand occurs at the base of Section 5.

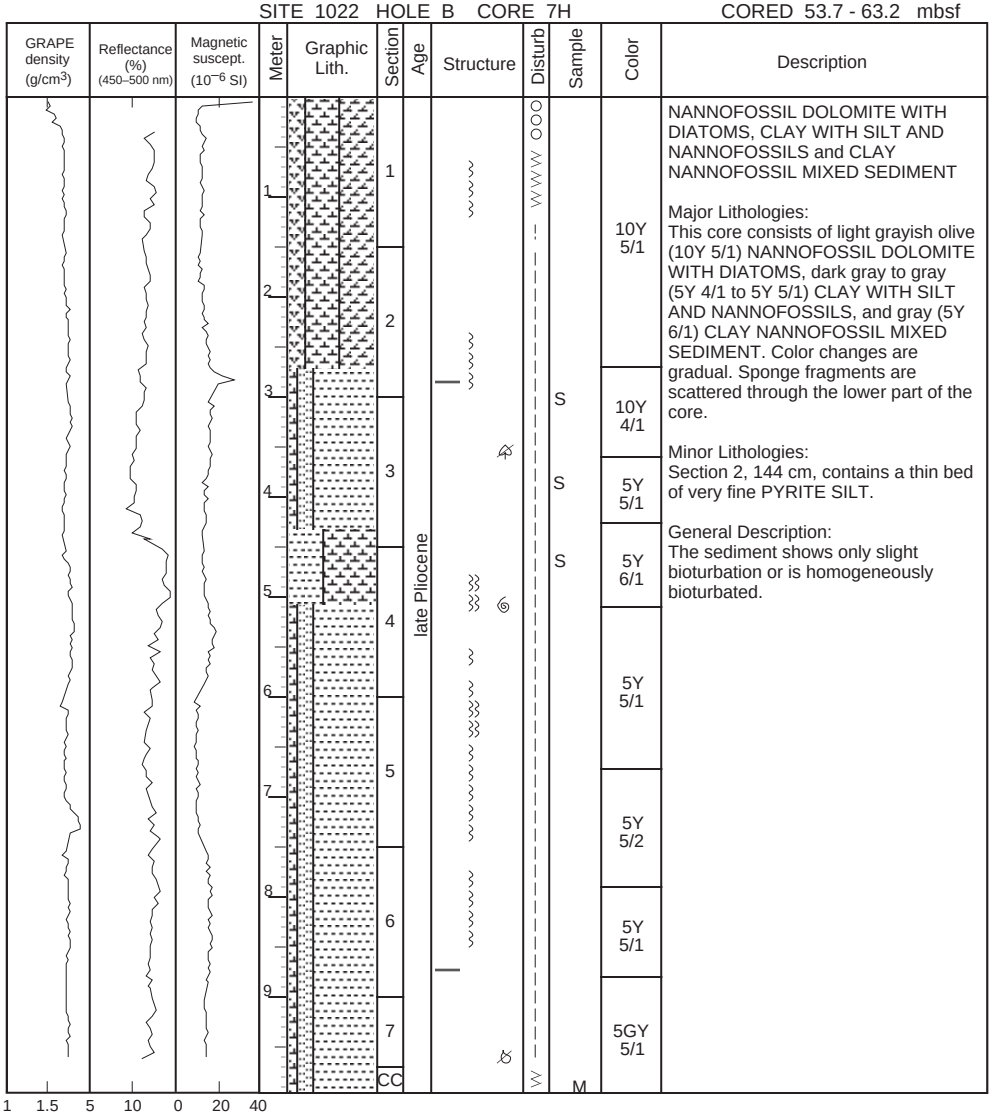
General Description:
The sediments are mostly homogeneous and moderately bioturbated in Sections 3 and 5. A fault cuts the core in Section 3. Several sponge fragments and a piece of wood are mixed in with the sediments of this core.

SITE 1022 HOLE B CORE 6H CORED 44.2 - 53.7 mbsf



Description
NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS and NANNOFOSSIL DOLOMITE WITH DIATOMS Major Lithologies: This core consists of gray (5Y 5/1) to light grayish olive (10Y 5/1) NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS and NANNOFOSSIL DOLOMITE WITH DIATOMS. The NANNOFOSSIL DOLOMITE WITH DIATOMS is no more indurated than the clay-rich sediments. Tiny sand pods (filled burrows?) are present in Sections 2 and 5. A piece of wood is located near the top of Section 5. Minor Lithology: A diffuse 15-cm band of light olive gray (5Y 6/2) NANNOFOSSIL OOZE WITH CLAY, DIATOMS, AND DOLOMITE is located in Section 2. General Description: The sediment is mostly homogeneous, but slight to moderate bioturbation is evident adjacent to color transitions.

SITE 1022 HOLE B CORE 7H CORED 53.7 - 63.2 mbsf

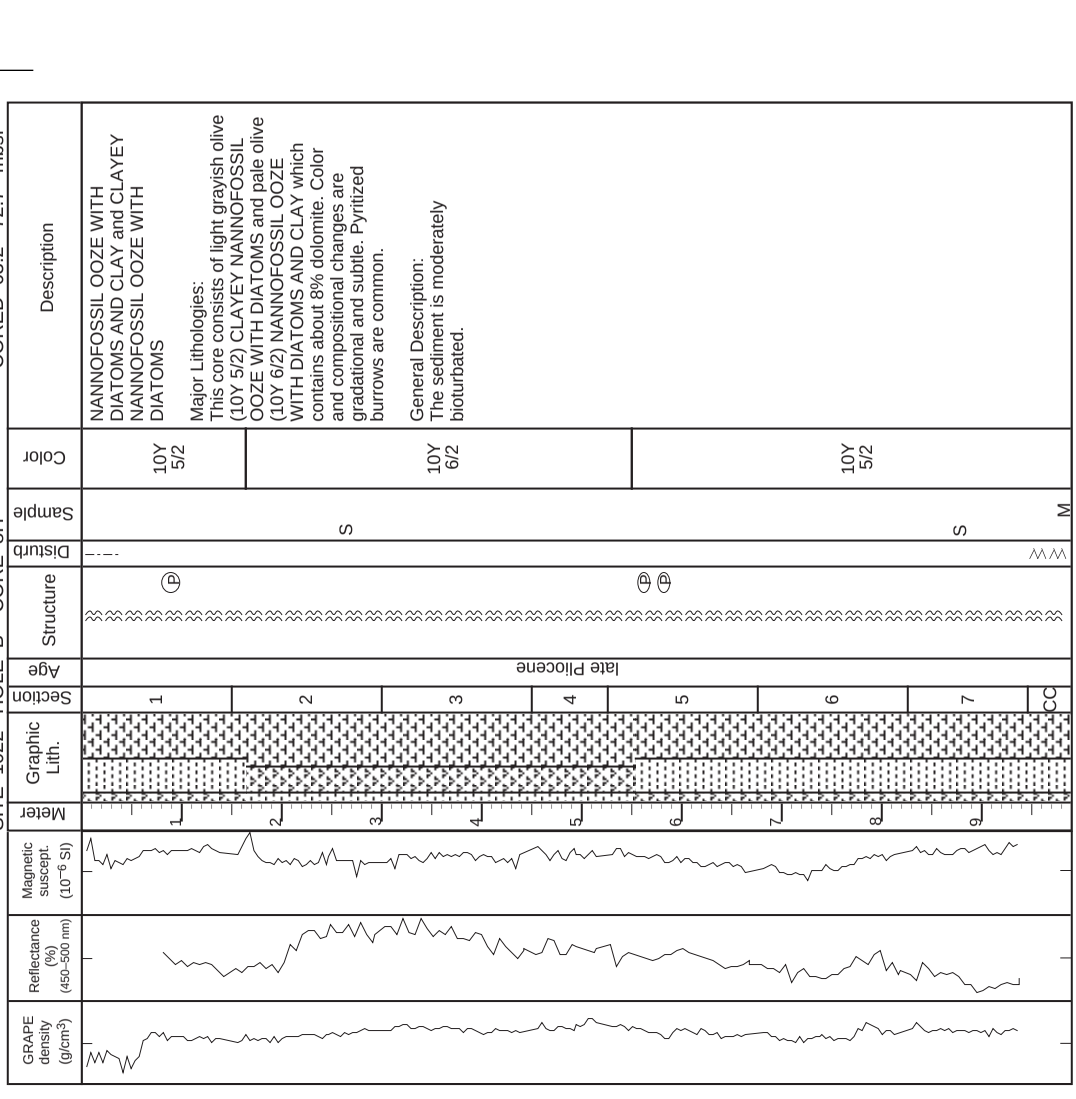


NANNOFOSSIL DOLOMITE WITH DIATOMS, CLAY WITH SILT AND NANNOFOSSILS and CLAY NANNOFOSSIL MIXED SEDIMENT

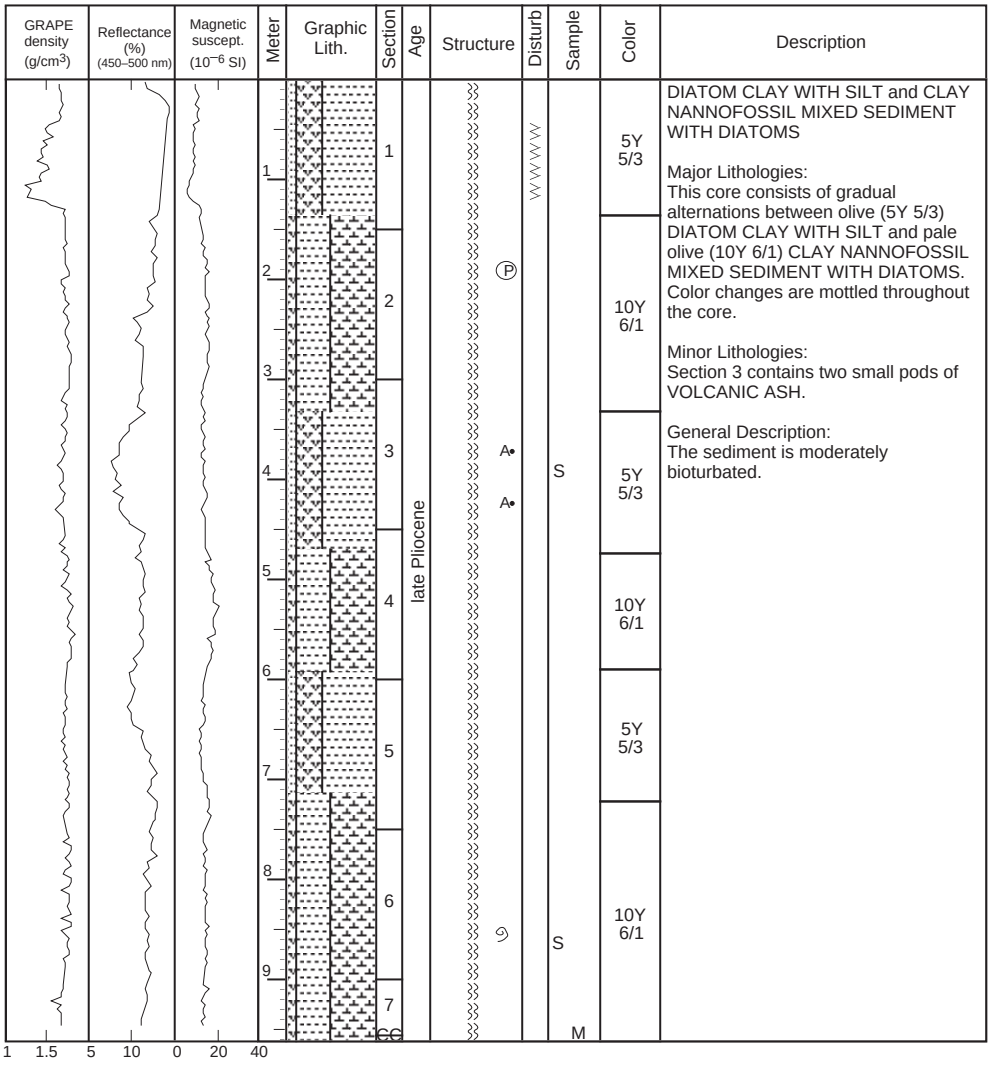
Major Lithologies:
This core consists of light grayish olive (10Y 5/1) NANNOFOSSIL DOLOMITE WITH DIATOMS, dark gray to gray (5Y 4/1 to 5Y 5/1) CLAY WITH SILT AND NANNOFOSSILS, and gray (5Y 6/1) CLAY NANNOFOSSIL MIXED SEDIMENT. Color changes are gradual. Sponge fragments are scattered through the lower part of the core.

Minor Lithologies:
Section 2, 144 cm, contains a thin bed of very fine PYRITE SILT.

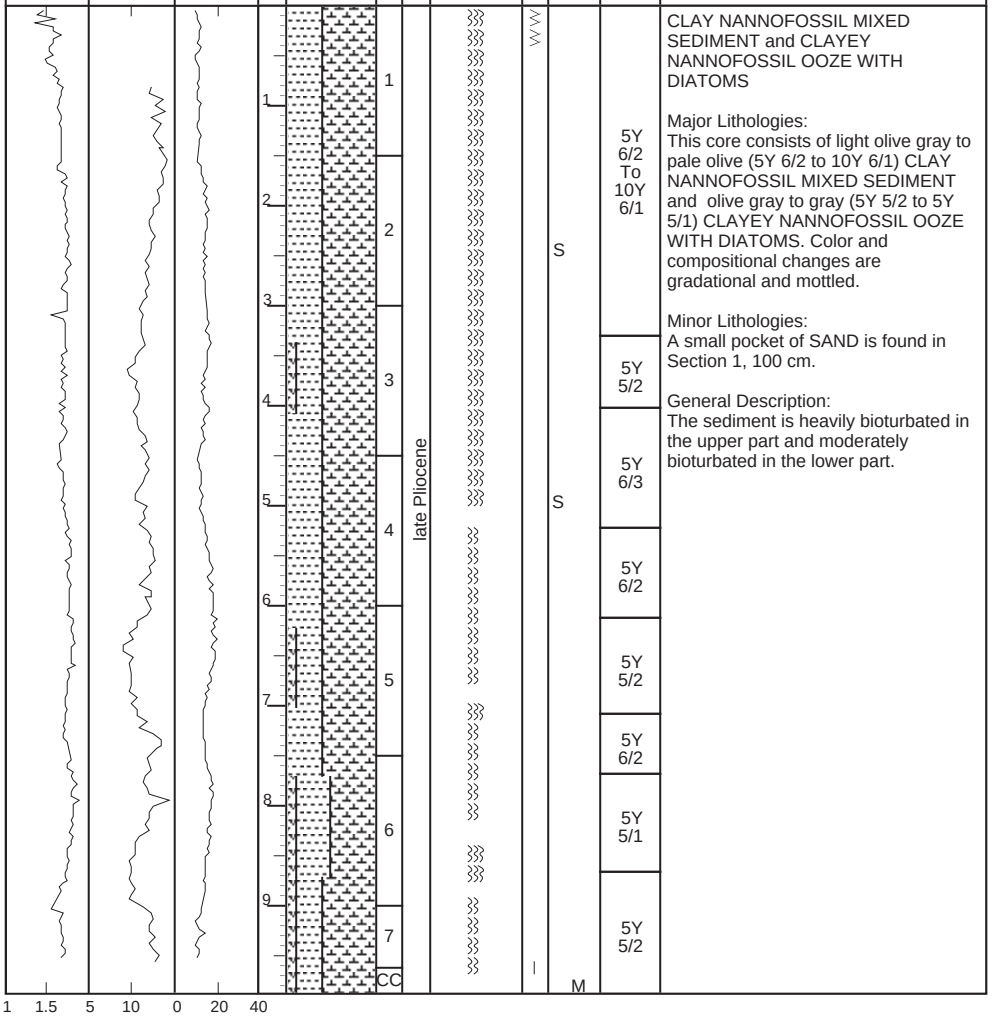
General Description:
The sediment shows only slight bioturbation or is homogeneously bioturbated.


SITE 1022 HOLE B CORE 8H CORED 63.2 - 72.7 mbsf
GRAPE density (g/cm³)
Reflectance (%) (450–500 nm)
Magnetic suscept. (10⁻⁶ SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
late Pliocene
10Y 5/2
10Y 6/2
10Y 5/2
NANNOFOSSIL OOZE WITH DIATOMS AND CLAY and CLAYEY NANNOFOSSIL OOZE WITH DIATOMS
Major Lithologies:
This core consists of light grayish olive (10Y 5/2) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS and pale olive (10Y 6/2) NANNOFOSSIL OOZE WITH DIATOMS AND CLAY which contains about 8% dolomite. Color and compositional changes are gradational and subtle. Pyritized burrows are common.
General Description:
The sediment is moderately bioturbated.

SITE 1022 HOLE B CORE 9H CORED 72.7 - 82.2 mbsf

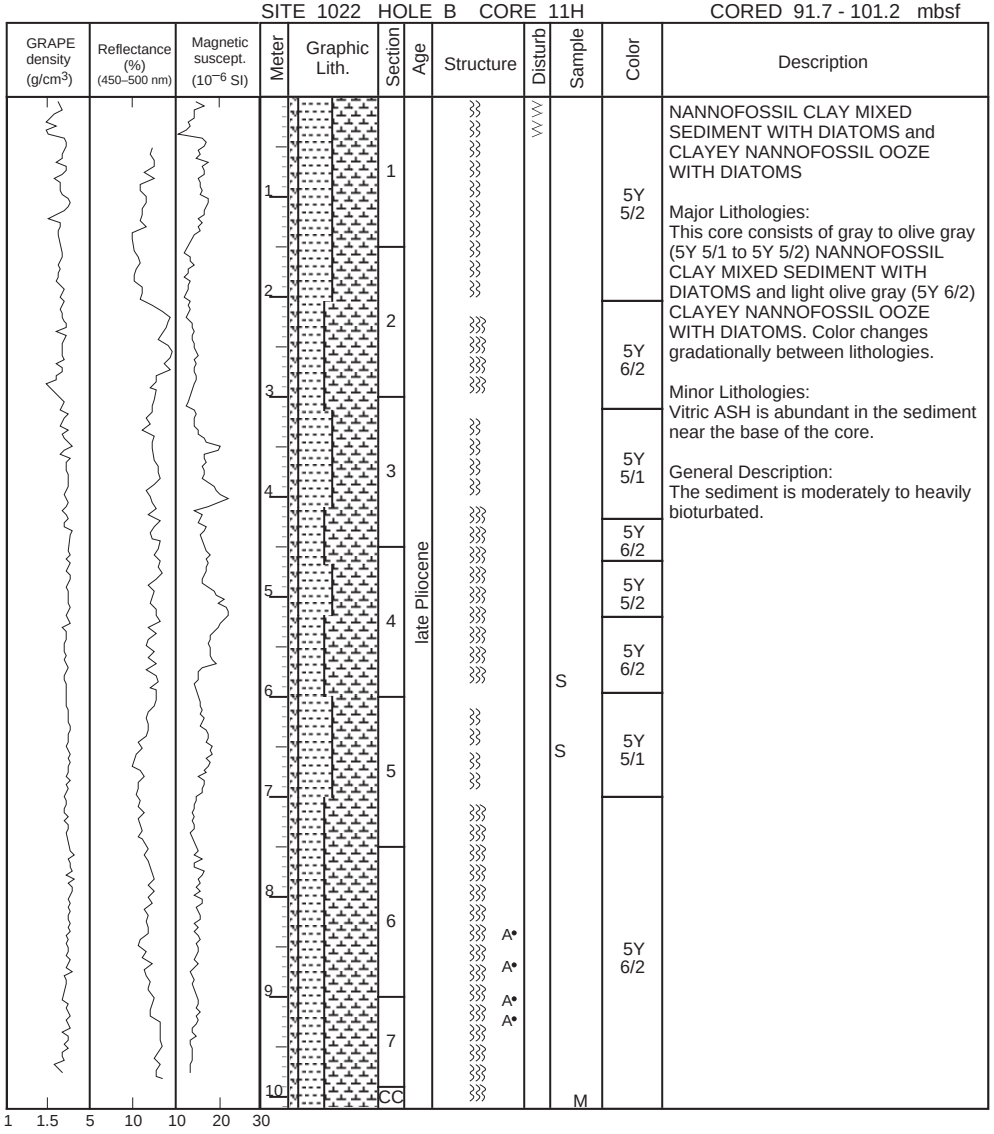


SITE 1022 HOLE B CORE 10H CORED 82.2 - 91.7 mbsf

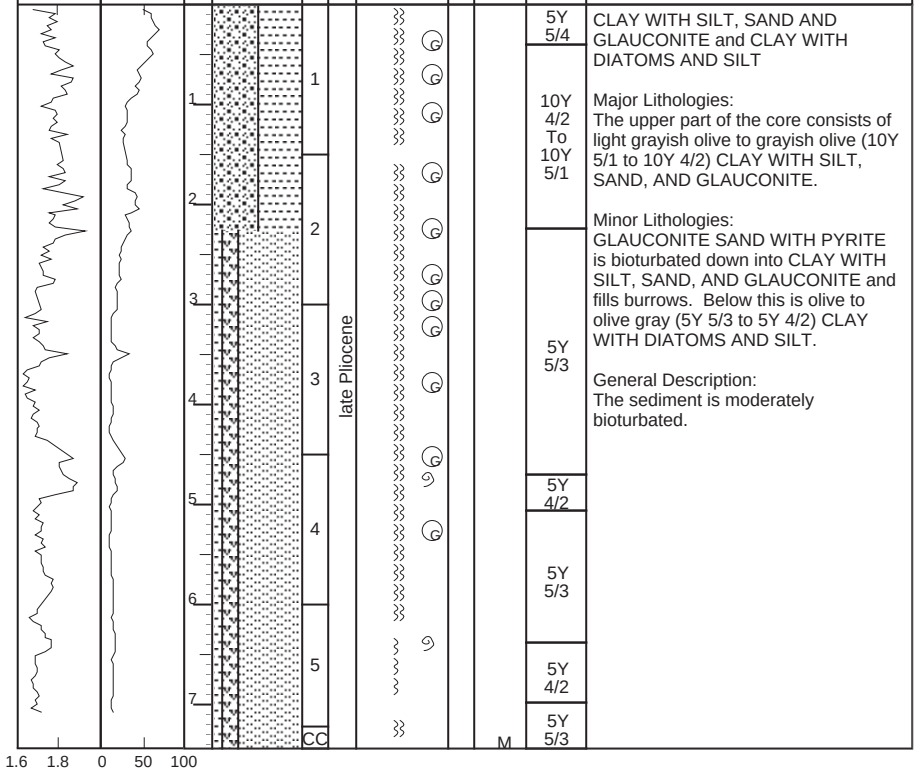


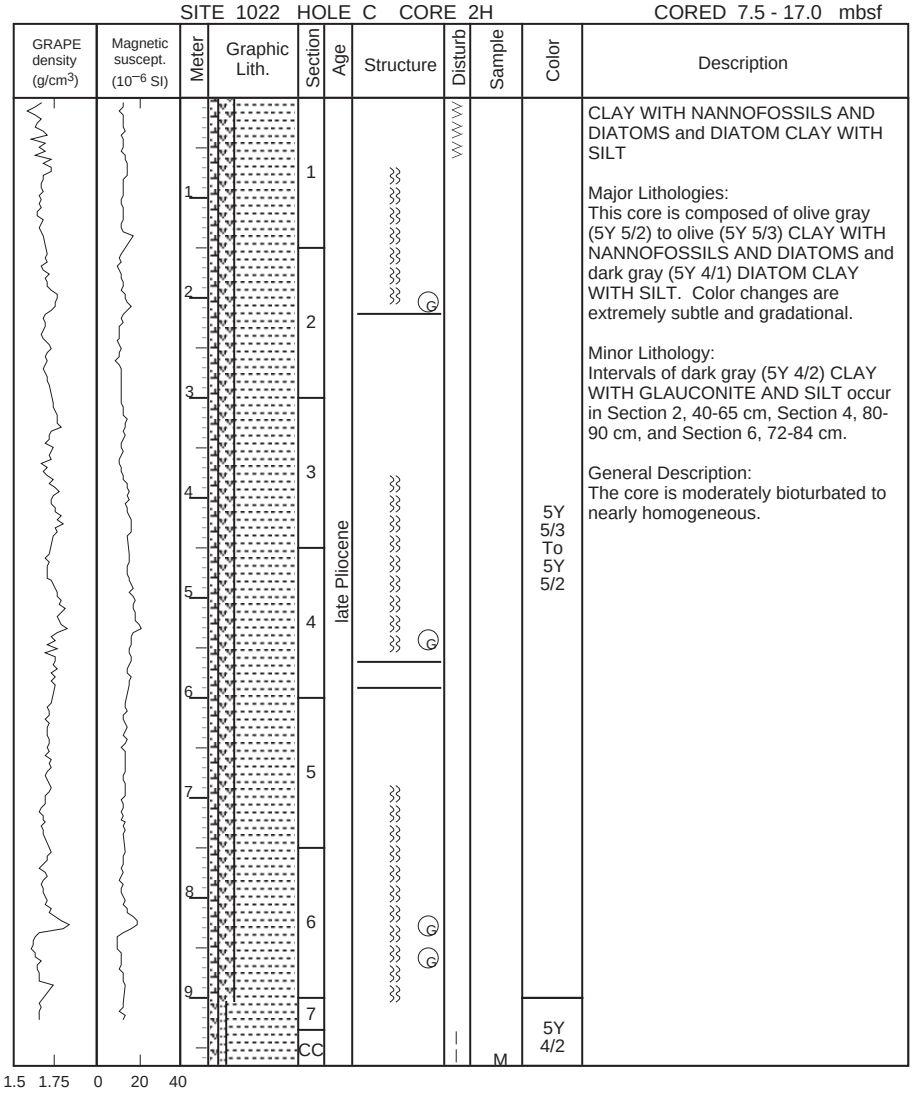
Description
CLAY NANNOFOSSIL MIXED SEDIMENT and CLAYEY NANNOFOSSIL OOZE WITH DIATOMS Major Lithologies: This core consists of light olive gray to pale olive (5Y 6/2 to 10Y 6/1) CLAY NANNOFOSSIL MIXED SEDIMENT and olive gray to gray (5Y 5/2 to 5Y 5/1) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS. Color and compositional changes are gradational and mottled. Minor Lithologies: A small pocket of SAND is found in Section 1, 100 cm. General Description: The sediment is heavily bioturbated in the upper part and moderately bioturbated in the lower part.

SITE 1022 HOLE B CORE 11H CORED 91.7 - 101.2 mbsf



SITE 1022 HOLE C CORE 1H CORED 0.0 - 7.5 mbsf





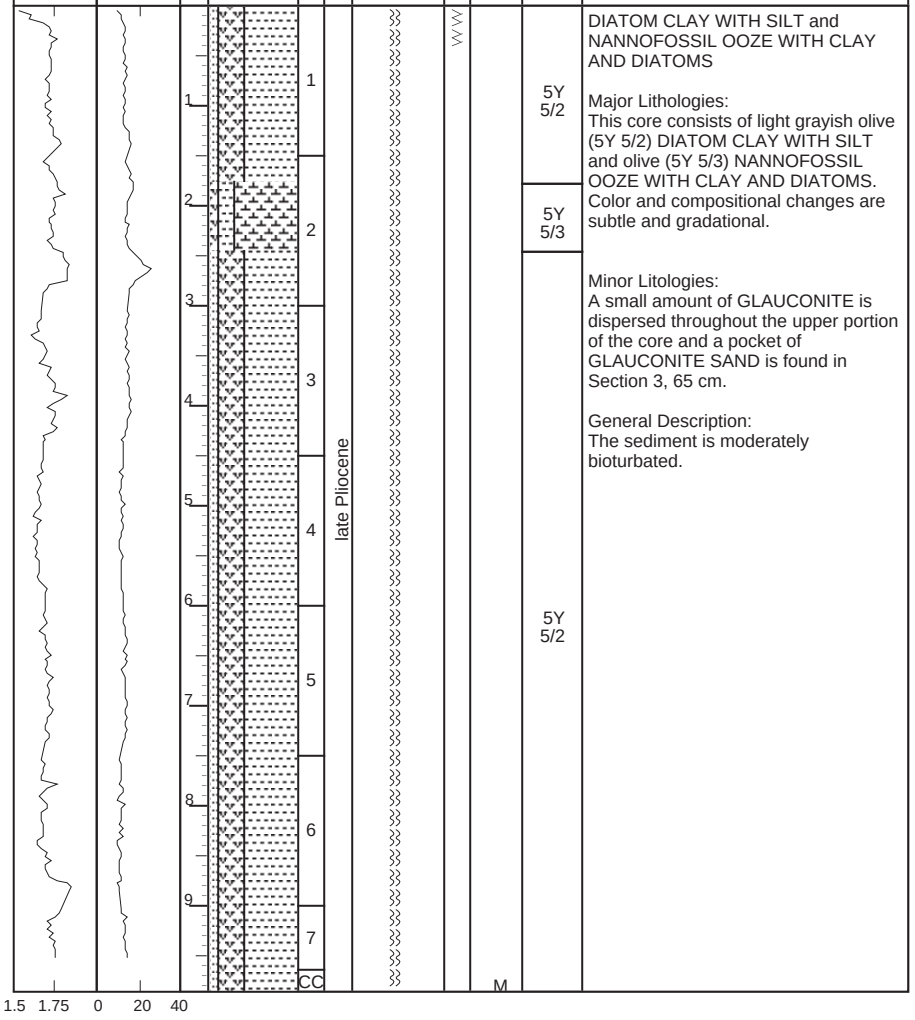
CLAY WITH NANNOFOSSILS AND DIATOMS and DIATOM CLAY WITH SILT

Major Lithologies:
This core is composed of olive gray (5Y 5/2) to olive (5Y 5/3) CLAY WITH NANNOFOSSILS AND DIATOMS and dark gray (5Y 4/1) DIATOM CLAY WITH SILT. Color changes are extremely subtle and gradational.

Minor Lithology:
Intervals of dark gray (5Y 4/2) CLAY WITH GLAUCONITE AND SILT occur in Section 2, 40-65 cm, Section 4, 80-90 cm, and Section 6, 72-84 cm.

General Description:
The core is moderately bioturbated to nearly homogeneous.

SITE 1022 HOLE C CORE 3H CORED 17.0 - 26.5 mbsf

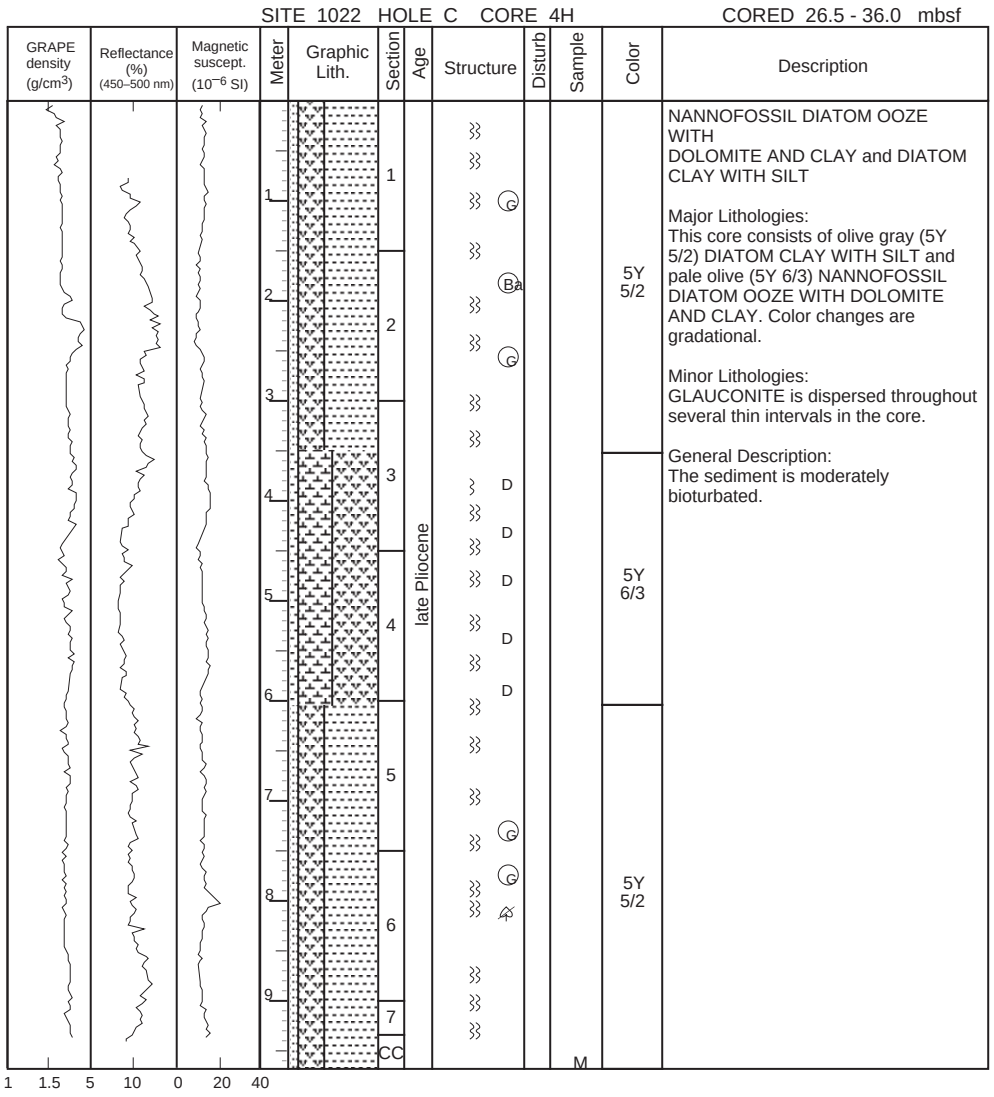


DIATOM CLAY WITH SILT and NANNOFOSSIL OOZE WITH CLAY AND DIATOMS

Major Lithologies:
This core consists of light grayish olive (5Y 5/2) DIATOM CLAY WITH SILT and olive (5Y 5/3) NANNOFOSSIL OOZE WITH CLAY AND DIATOMS. Color and compositional changes are subtle and gradational.

Minor Litologies:
A small amount of GLAUCONITE is dispersed throughout the upper portion of the core and a pocket of GLAUCONITE SAND is found in Section 3, 65 cm.

General Description:
The sediment is moderately bioturbated.



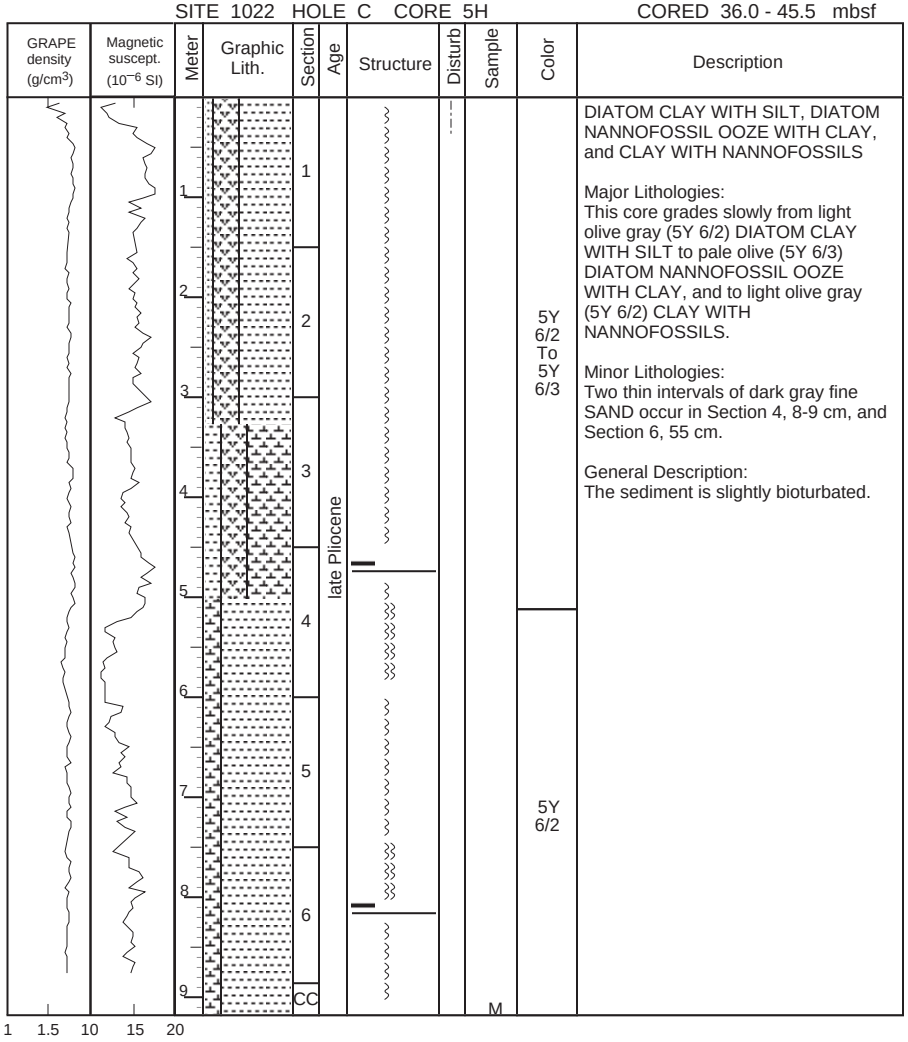
NANNOFOSSIL DIATOM OOZE WITH
DOLOMITE AND CLAY and DIATOM CLAY WITH SILT

Major Lithologies:
This core consists of olive gray (5Y 5/2) DIATOM CLAY WITH SILT and pale olive (5Y 6/3) NANNOFOSSIL DIATOM OOZE WITH DOLOMITE AND CLAY. Color changes are gradational.

Minor Lithologies:
GLAUCONITE is dispersed throughout several thin intervals in the core.

General Description:
The sediment is moderately bioturbated.

SITE 1022 HOLE C CORE 5H CORED 36.0 - 45.5 mbsf



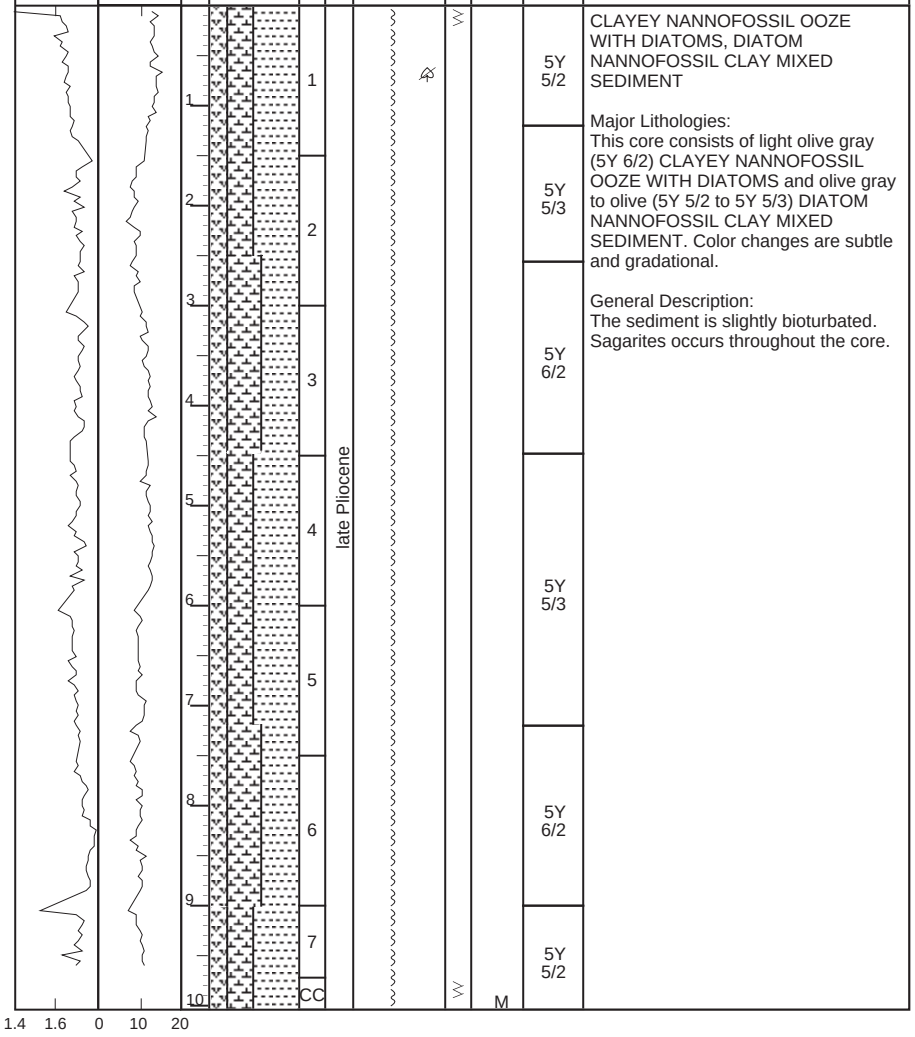
DIATOM CLAY WITH SILT, DIATOM NANNOFOSSIL OOZE WITH CLAY, and CLAY WITH NANNOFOSSILS

Major Lithologies:
This core grades slowly from light olive gray (5Y 6/2) DIATOM CLAY WITH SILT to pale olive (5Y 6/3) DIATOM NANNOFOSSIL OOZE WITH CLAY, and to light olive gray (5Y 6/2) CLAY WITH NANNOFOSSILS.

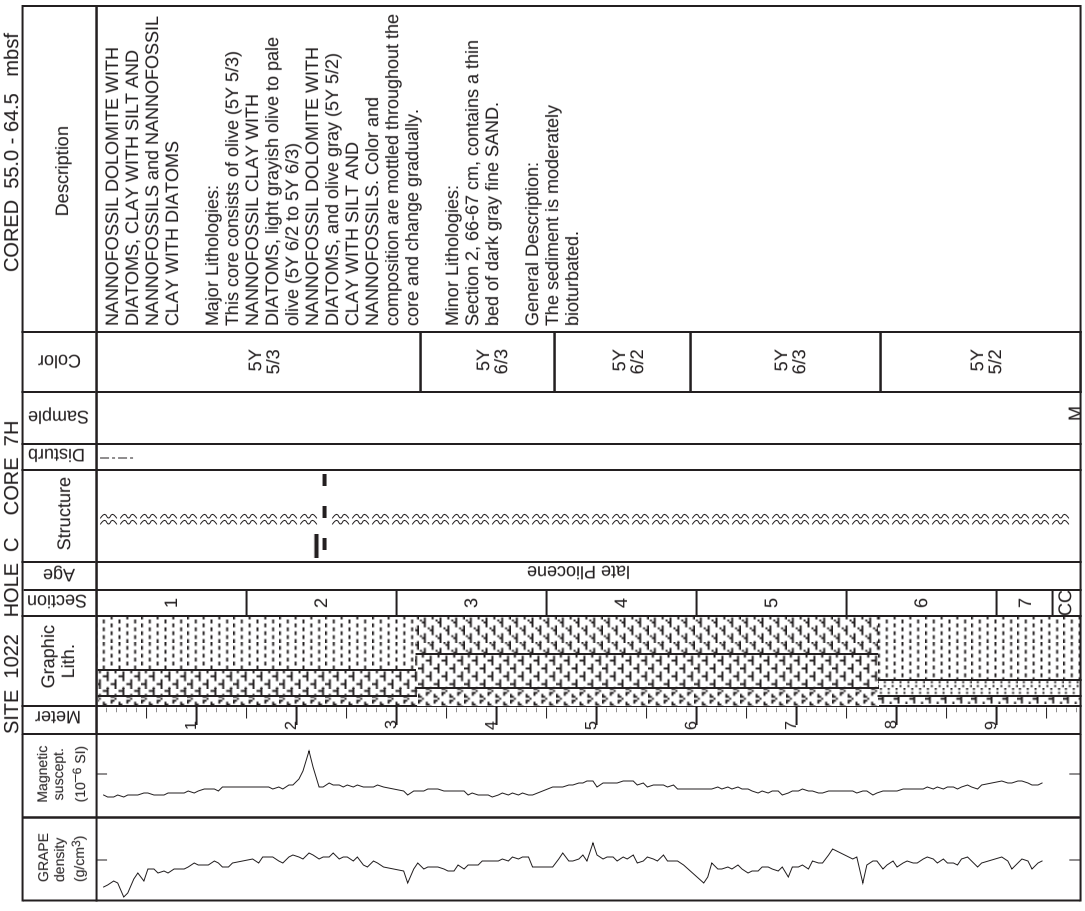
Minor Lithologies:
Two thin intervals of dark gray fine SAND occur in Section 4, 8-9 cm, and Section 6, 55 cm.

General Description:
The sediment is slightly bioturbated.

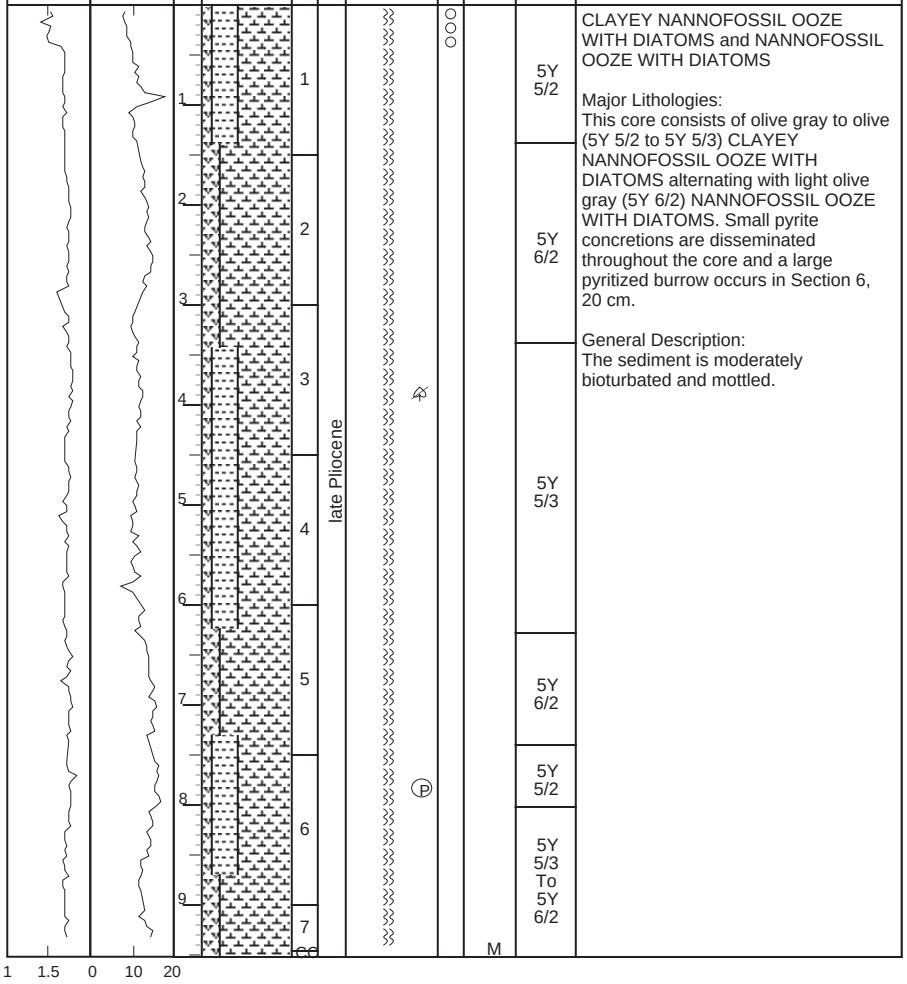
SITE 1022 HOLE C CORE 6H CORED 45.5 - 55.0 mbsf



Color	Description
5Y 5/2	CLAYEY NANNOFOSSIL OOZE WITH DIATOMS, DIATOM NANNOFOSSIL CLAY MIXED SEDIMENT Major Lithologies: This core consists of light olive gray (5Y 6/2) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS and olive gray to olive (5Y 5/2 to 5Y 5/3) DIATOM NANNOFOSSIL CLAY MIXED SEDIMENT. Color changes are subtle and gradational. General Description: The sediment is slightly bioturbated. Sagarites occurs throughout the core.
5Y 5/3	
5Y 6/2	
5Y 5/3	
5Y 6/2	
5Y 5/2	


SITE 1022 HOLE C CORE 7H CORED 55.0 - 64.5 mbsf
GRAPE density (g/cm3)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
late Pliocene
5Y 5/3
5Y 6/3
5Y 6/2
5Y 6/3
5Y 5/2
NANNOFOSSIL DOLOMITE WITH DIATOMS, CLAY WITH SILT AND NANNOFOSSILS and NANNOFOSSIL CLAY WITH DIATOMS
Major Lithologies:
This core consists of olive (5Y 5/3) NANNOFOSSIL CLAY WITH DIATOMS, light grayish olive to pale olive (5Y 6/2 to 5Y 6/3) NANNOFOSSIL DOLOMITE WITH DIATOMS, and olive gray (5Y 5/2) CLAY WITH SILT AND NANNOFOSSILS. Color and composition are mottled throughout the core and change gradually.
Minor Lithologies:
Section 2, 66-67 cm, contains a thin bed of dark gray fine SAND.
General Description:
The sediment is moderately bioturbated.
1.5 1.75 0 20 40

SITE 1022 HOLE C CORE 8H CORED 64.5 - 74.0 mbsf

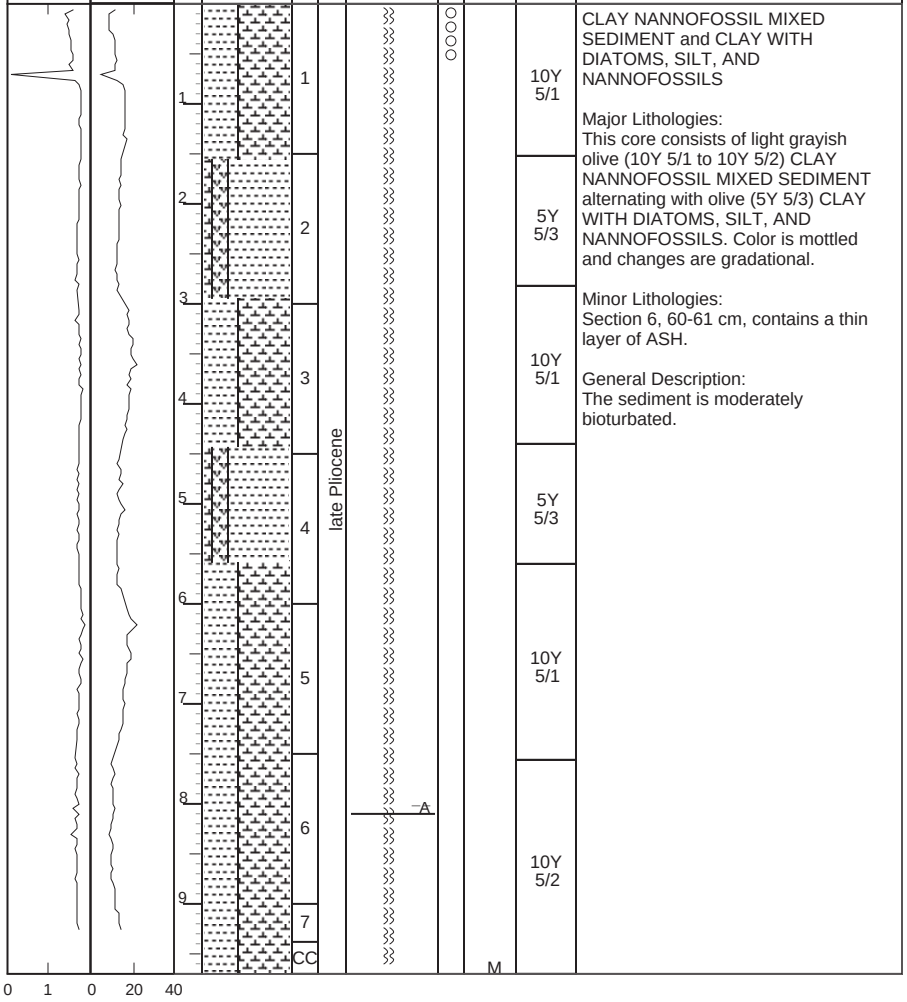


CLAYEY NANNOFOSSIL OOZE WITH DIATOMS and NANNOFOSSIL OOZE WITH DIATOMS

Major Lithologies:
This core consists of olive gray to olive (5Y 5/2 to 5Y 5/3) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS alternating with light olive gray (5Y 6/2) NANNOFOSSIL OOZE WITH DIATOMS. Small pyrite concretions are disseminated throughout the core and a large pyritized burrow occurs in Section 6, 20 cm.

General Description:
The sediment is moderately bioturbated and mottled.

SITE 1022 HOLE C CORE 9H CORED 74.0 - 83.5 mbsf



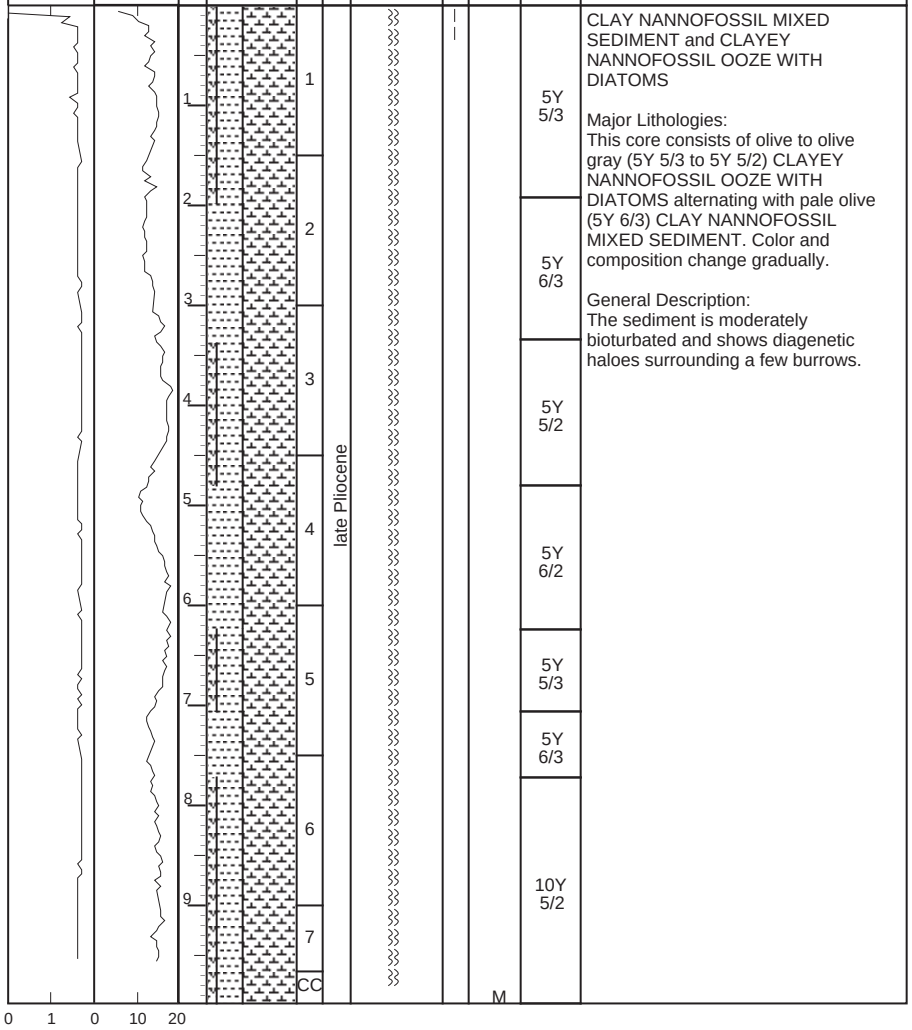
CLAY NANNOFOSSIL MIXED SEDIMENT and CLAY WITH DIATOMS, SILT, AND NANNOFOSSILS

Major Lithologies:
This core consists of light grayish olive (10Y 5/1 to 10Y 5/2) CLAY NANNOFOSSIL MIXED SEDIMENT alternating with olive (5Y 5/3) CLAY WITH DIATOMS, SILT, AND NANNOFOSSILS. Color is mottled and changes are gradational.

Minor Lithologies:
Section 6, 60-61 cm, contains a thin layer of ASH.

General Description:
The sediment is moderately bioturbated.

SITE 1022 HOLE C CORE 10H CORED 83.5 - 93.0 mbsf

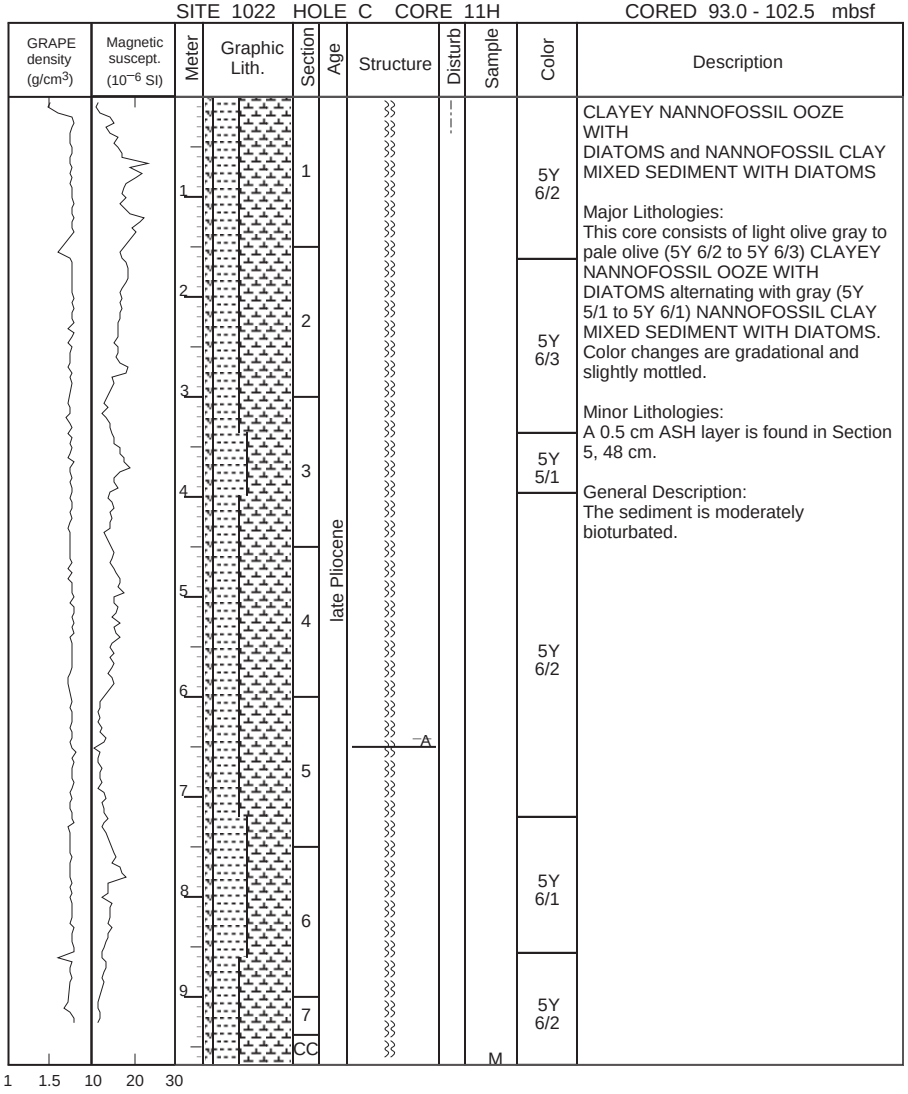


CLAY NANNOFOSSIL MIXED SEDIMENT and CLAYEY NANNOFOSSIL OOZE WITH DIATOMS

Major Lithologies:
This core consists of olive to olive gray (5Y 5/3 to 5Y 5/2) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS alternating with pale olive (5Y 6/3) CLAY NANNOFOSSIL MIXED SEDIMENT. Color and composition change gradually.

General Description:
The sediment is moderately bioturbated and shows diagenetic haloes surrounding a few burrows.

SITE 1022 HOLE C CORE 11H CORED 93.0 - 102.5 mbsf



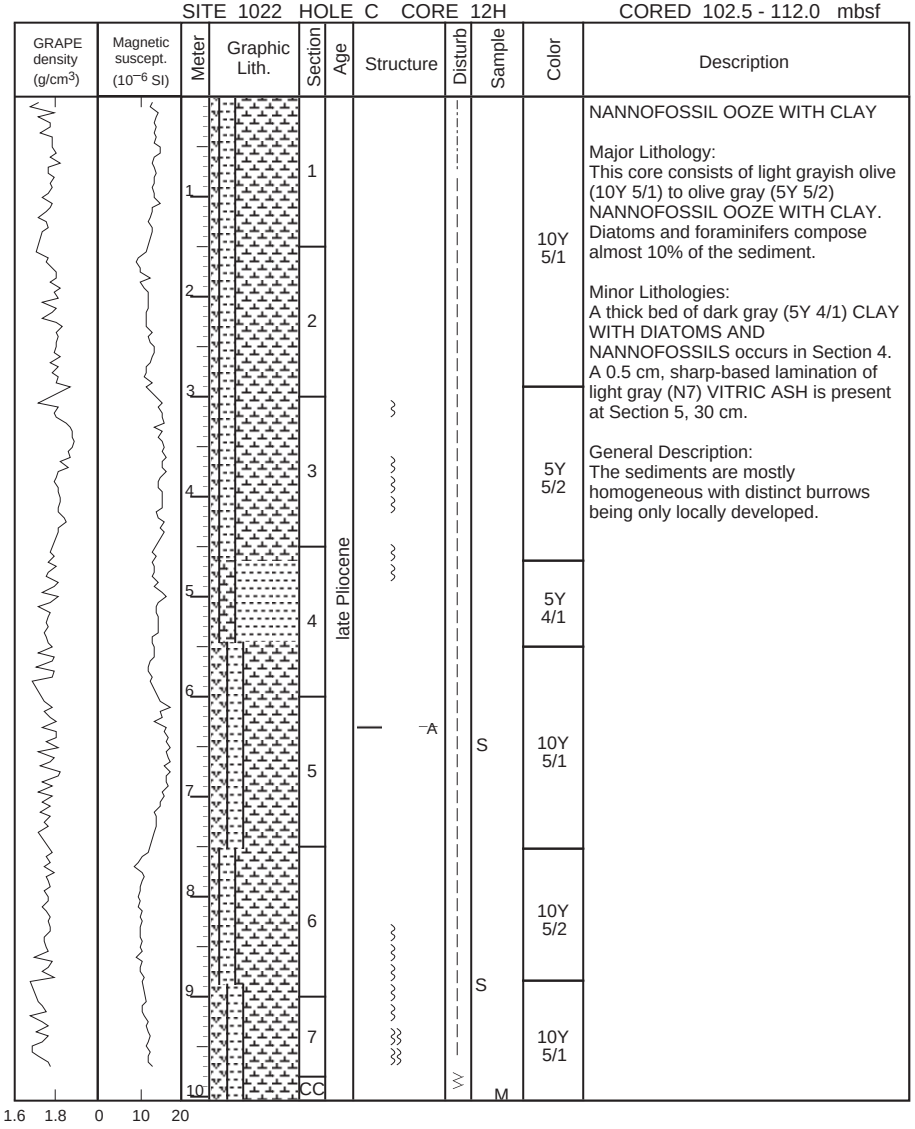
CLAYEY NANNOFOSSIL OOZE
WITH
DIATOMS and NANNOFOSSIL CLAY
MIXED SEDIMENT WITH DIATOMS

Major Lithologies:
This core consists of light olive gray to pale olive (5Y 6/2 to 5Y 6/3) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS alternating with gray (5Y 5/1 to 5Y 6/1) NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS. Color changes are gradational and slightly mottled.

Minor Lithologies:
A 0.5 cm ASH layer is found in Section 5, 48 cm.

General Description:
The sediment is moderately bioturbated.

SITE 1022 HOLE C CORE 12H CORED 102.5 - 112.0 mbsf



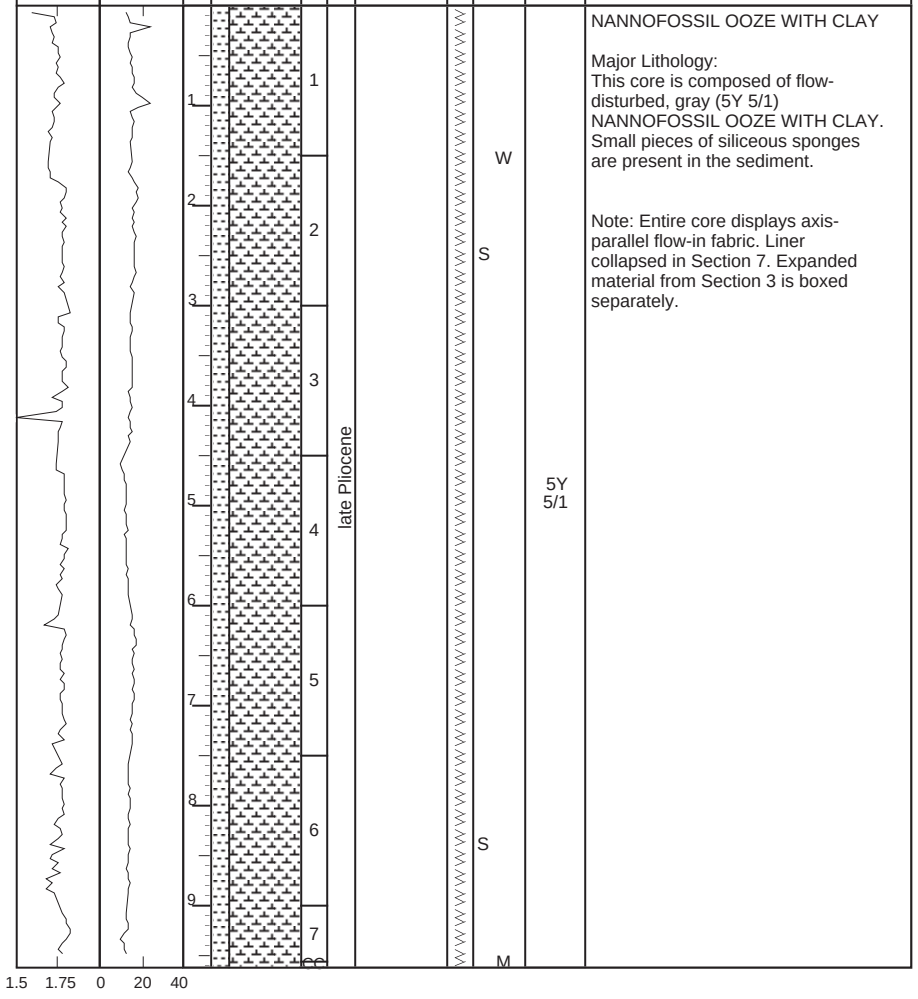
NANNOFOSSIL OOZE WITH CLAY

Major Lithology:
This core consists of light grayish olive (10Y 5/1) to olive gray (5Y 5/2) NANNOFOSSIL OOZE WITH CLAY. Diatoms and foraminifers compose almost 10% of the sediment.

Minor Lithologies:
A thick bed of dark gray (5Y 4/1) CLAY WITH DIATOMS AND NANNOFOSSILS occurs in Section 4. A 0.5 cm, sharp-based lamination of light gray (N7) VITRIC ASH is present at Section 5, 30 cm.

General Description:
The sediments are mostly homogeneous with distinct burrows being only locally developed.

SITE 1022 HOLE C CORE 13H CORED 112.0 - 121.5 mbsf

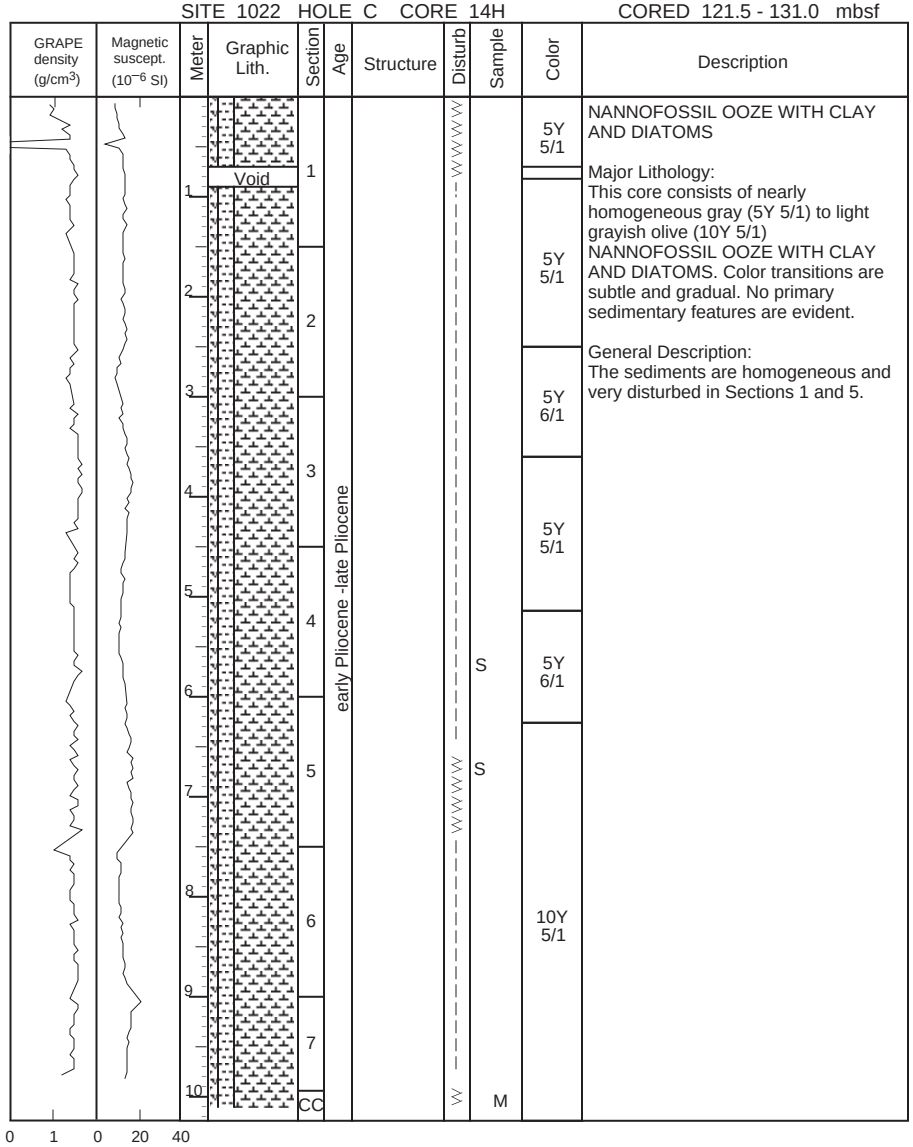


NANNOFOSSIL OOZE WITH CLAY

Major Lithology:
This core is composed of flow-disturbed, gray (5Y 5/1) NANNOFOSSIL OOZE WITH CLAY. Small pieces of siliceous sponges are present in the sediment.

Note: Entire core displays axis-parallel flow-in fabric. Liner collapsed in Section 7. Expanded material from Section 3 is boxed separately.

SITE 1022 HOLE C CORE 14H CORED 121.5 - 131.0 mbsf

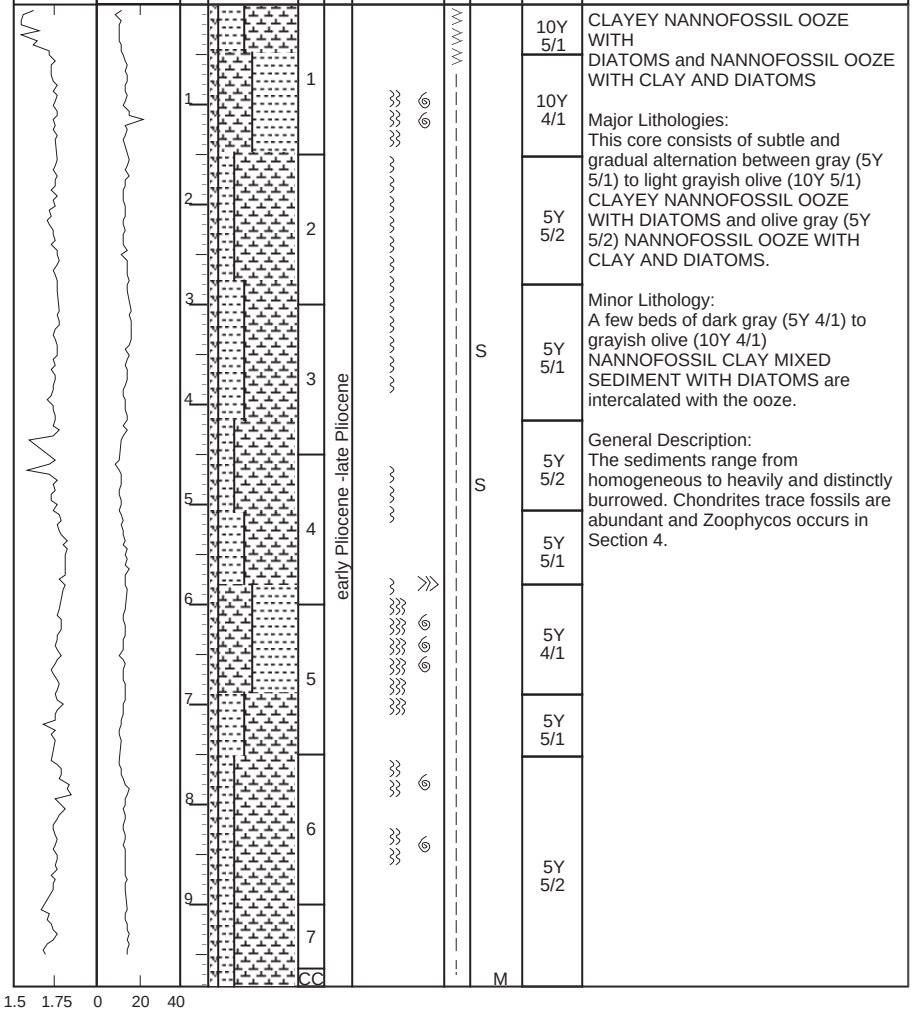


NANNOFOSSIL OOZE WITH CLAY AND DIATOMS

Major Lithology:
This core consists of nearly homogeneous gray (5Y 5/1) to light grayish olive (10Y 5/1) NANNOFOSSIL OOZE WITH CLAY AND DIATOMS. Color transitions are subtle and gradual. No primary sedimentary features are evident.

General Description:
The sediments are homogeneous and very disturbed in Sections 1 and 5.

SITE 1022 HOLE C CORE 15H CORED 131.0 - 140.5 mbsf

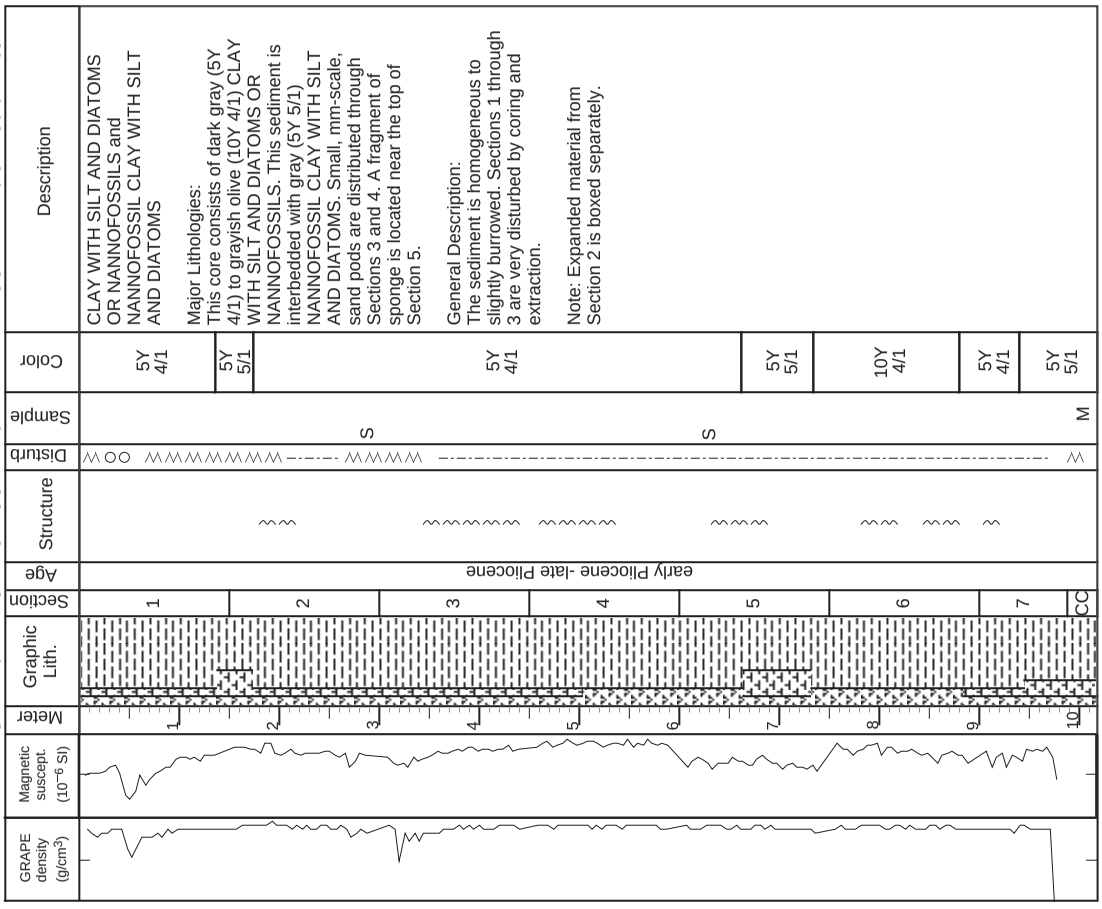


CLAYEY NANNOFOSSIL OOZE WITH DIATOMS and NANNOFOSSIL OOZE WITH CLAY AND DIATOMS

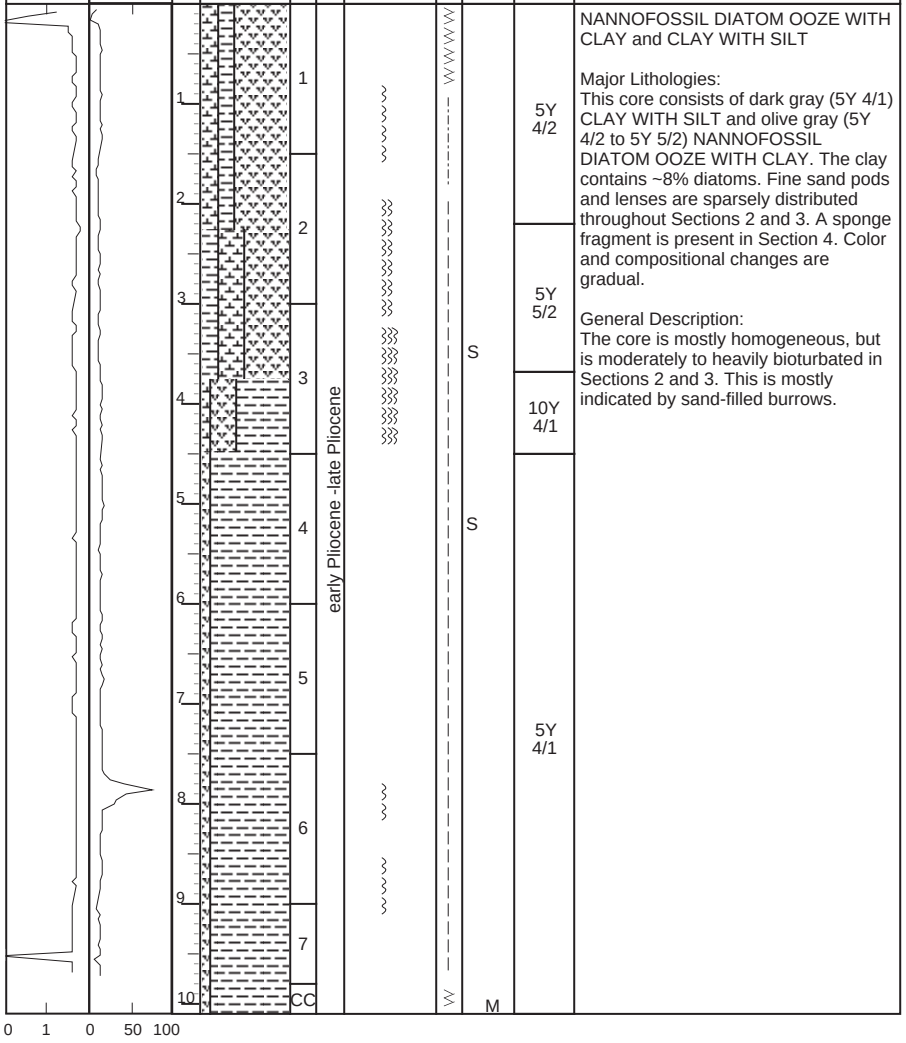
Major Lithologies:
This core consists of subtle and gradual alternation between gray (5Y 5/1) to light grayish olive (10Y 5/1) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS and olive gray (5Y 5/2) NANNOFOSSIL OOZE WITH CLAY AND DIATOMS.

Minor Lithology:
A few beds of dark gray (5Y 4/1) to grayish olive (10Y 4/1) NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS are intercalated with the ooze.

General Description:
The sediments range from homogeneous to heavily and distinctly burrowed. Chondrites trace fossils are abundant and Zoophycos occurs in Section 4.


SITE 1022 HOLE C CORE 16H CORED 140.5 - 150.0 mbsf
GRAPE density (g/cm3)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
early Pliocene -late Pliocene
5Y 4/1
5Y 5/1
10Y 4/1
CLAY WITH SILT AND DIATOMS OR NANNOFOSSILS and NANNOFOSSIL CLAY WITH SILT AND DIATOMS
Major Lithologies:
This core consists of dark gray (5Y 4/1) to grayish olive (10Y 4/1) CLAY WITH SILT AND DIATOMS OR NANNOFOSSILS. This sediment is interbedded with gray (5Y 5/1) NANNOFOSSIL CLAY WITH SILT AND DIATOMS. Small, mm-scale, sand pods are distributed through Sections 3 and 4. A fragment of sponge is located near the top of Section 5.
General Description:
The sediment is homogeneous to slightly burrowed. Sections 1 through 3 are very disturbed by coring and extraction.
Note: Expanded material from Section 2 is boxed separately.

SITE 1022 HOLE C CORE 17H CORED 150.0 - 159.5 mbsf

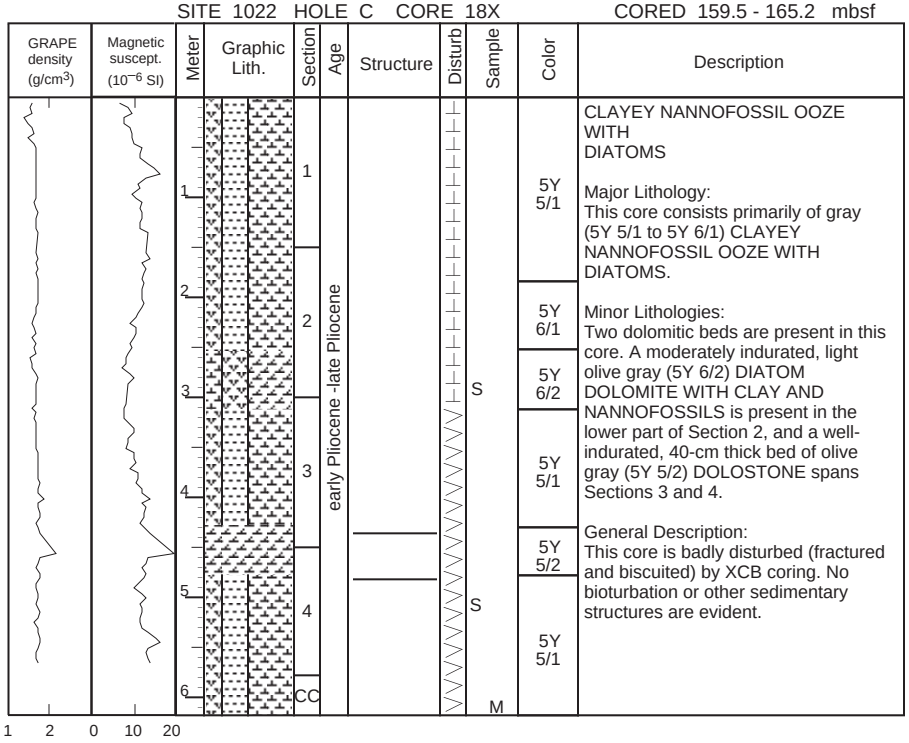


NANNOFOSSIL DIATOM OOZE WITH CLAY and CLAY WITH SILT

Major Lithologies:
This core consists of dark gray (5Y 4/1) CLAY WITH SILT and olive gray (5Y 4/2 to 5Y 5/2) NANNOFOSSIL DIATOM OOZE WITH CLAY. The clay contains ~8% diatoms. Fine sand pods and lenses are sparsely distributed throughout Sections 2 and 3. A sponge fragment is present in Section 4. Color and compositional changes are gradual.

General Description:
The core is mostly homogeneous, but is moderately to heavily bioturbated in Sections 2 and 3. This is mostly indicated by sand-filled burrows.

SITE 1022 HOLE C CORE 18X CORED 159.5 - 165.2 mbsf



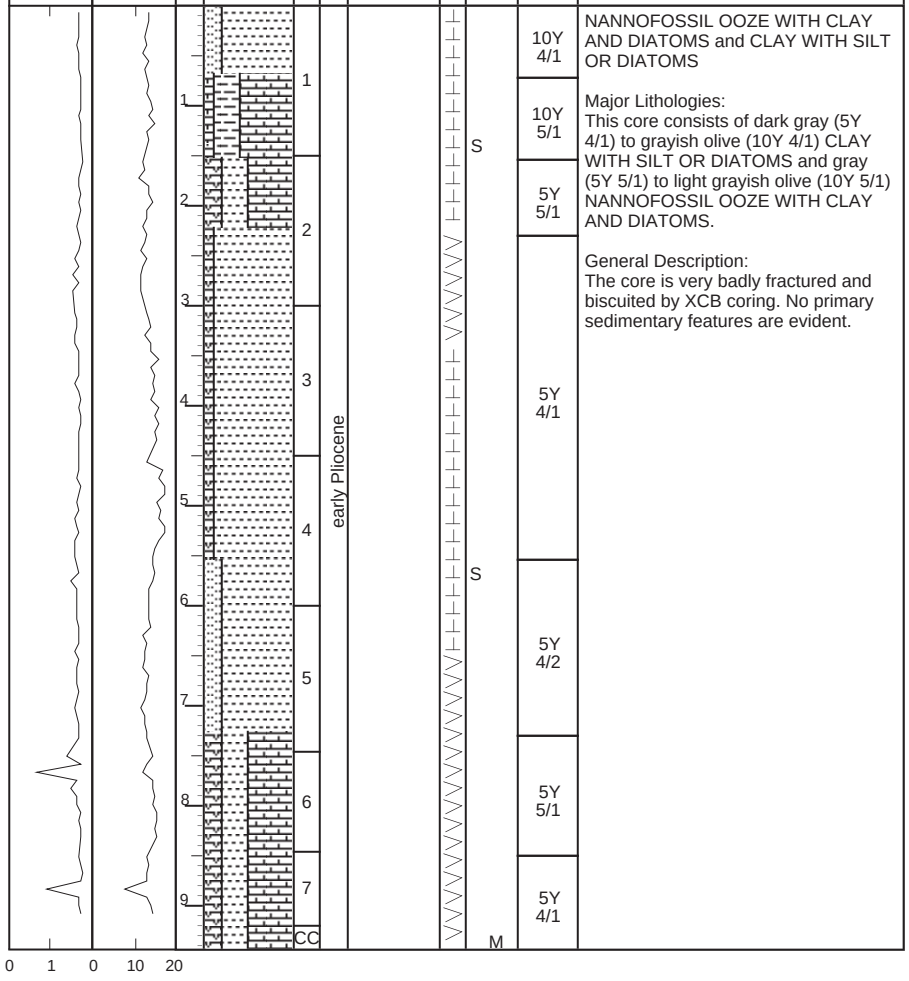
CLAYEY NANNOFOSSIL OOZE WITH DIATOMS

Major Lithology:
This core consists primarily of gray (5Y 5/1 to 5Y 6/1) CLAYEY NANNOFOSSIL OOZE WITH DIATOMS.

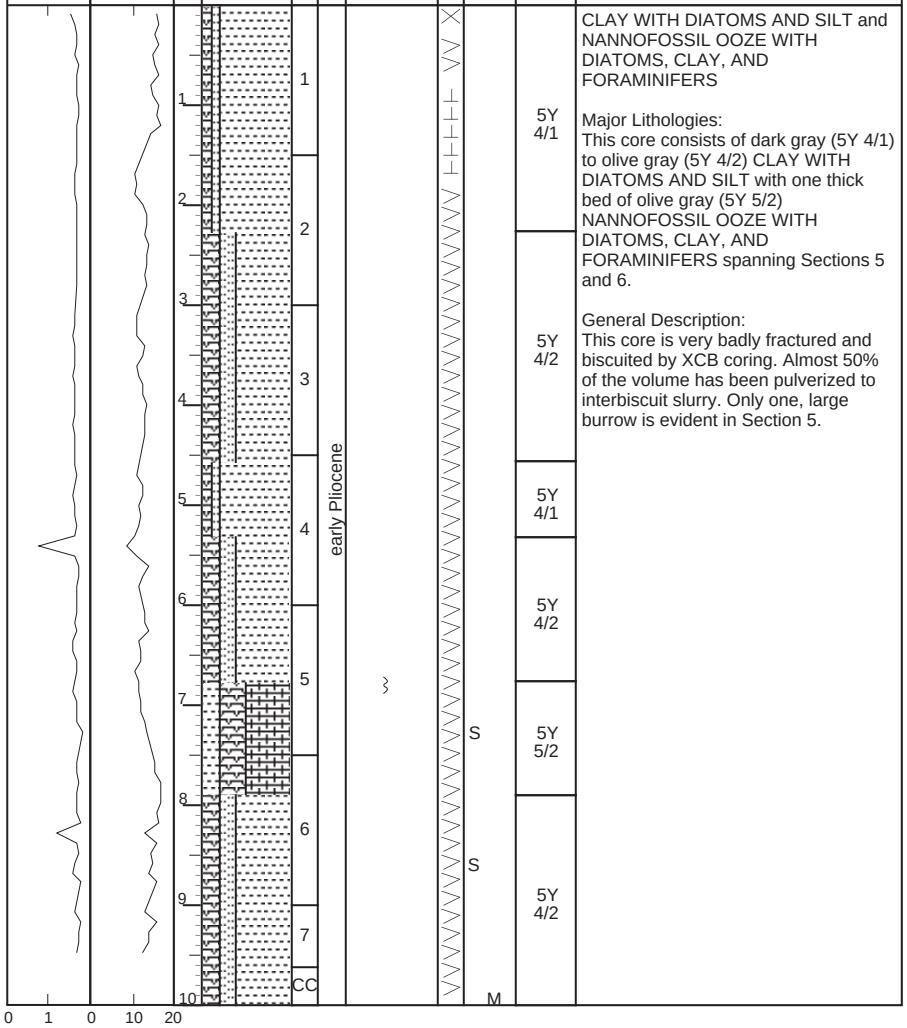
Minor Lithologies:
Two dolomitic beds are present in this core. A moderately indurated, light olive gray (5Y 6/2) DIATOM DOLOMITE WITH CLAY AND NANNOFOSSILS is present in the lower part of Section 2, and a well-indurated, 40-cm thick bed of olive gray (5Y 5/2) DOLOSTONE spans Sections 3 and 4.

General Description:
This core is badly disturbed (fractured and biscuited) by XCB coring. No bioturbation or other sedimentary structures are evident.

SITE 1022 HOLE C CORE 19X CORED 165.2 - 174.8 mbsf



SITE 1022 HOLE C CORE 20X CORED 174.8 - 184.4 mbsf

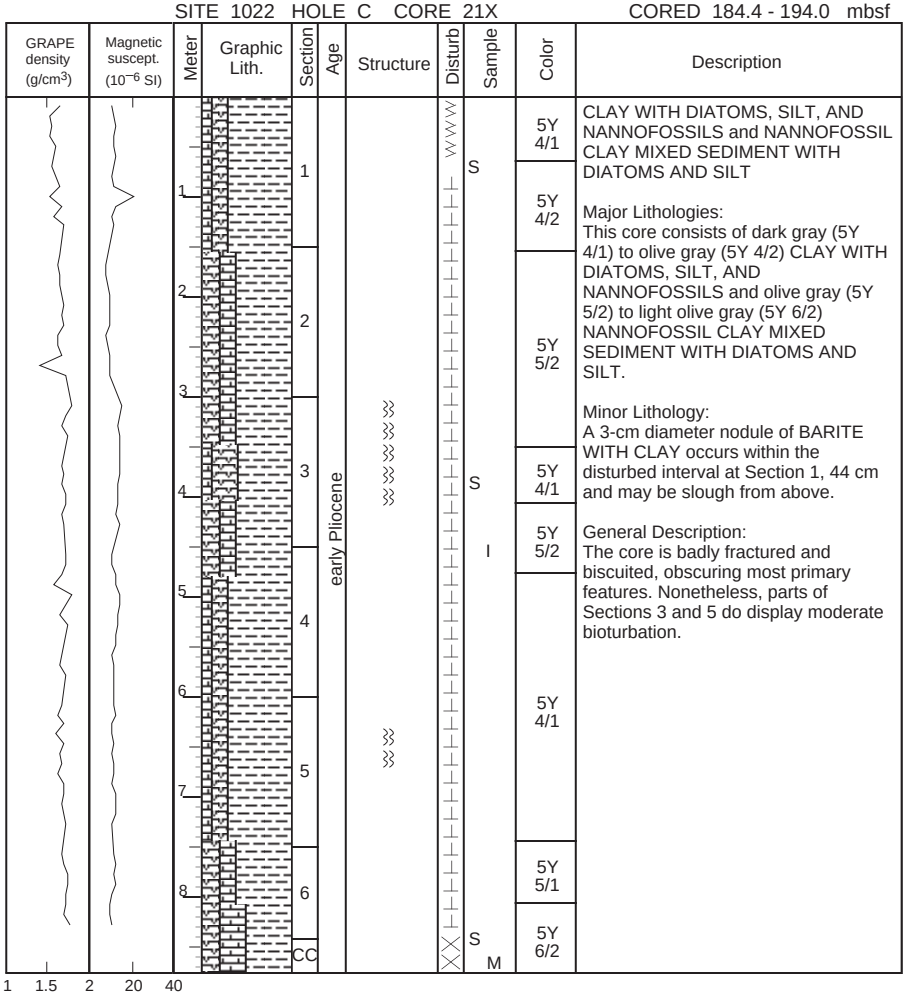


CLAY WITH DIATOMS AND SILT and NANNOFOSSIL OOZE WITH DIATOMS, CLAY, AND FORAMINIFERS

Major Lithologies:
This core consists of dark gray (5Y 4/1) to olive gray (5Y 4/2) CLAY WITH DIATOMS AND SILT with one thick bed of olive gray (5Y 5/2) NANNOFOSSIL OOZE WITH DIATOMS, CLAY, AND FORAMINIFERS spanning Sections 5 and 6.

General Description:
This core is very badly fractured and biscuited by XCB coring. Almost 50% of the volume has been pulverized to interbiscuit slurry. Only one, large burrow is evident in Section 5.

SITE 1022 HOLE C CORE 21X CORED 184.4 - 194.0 mbsf



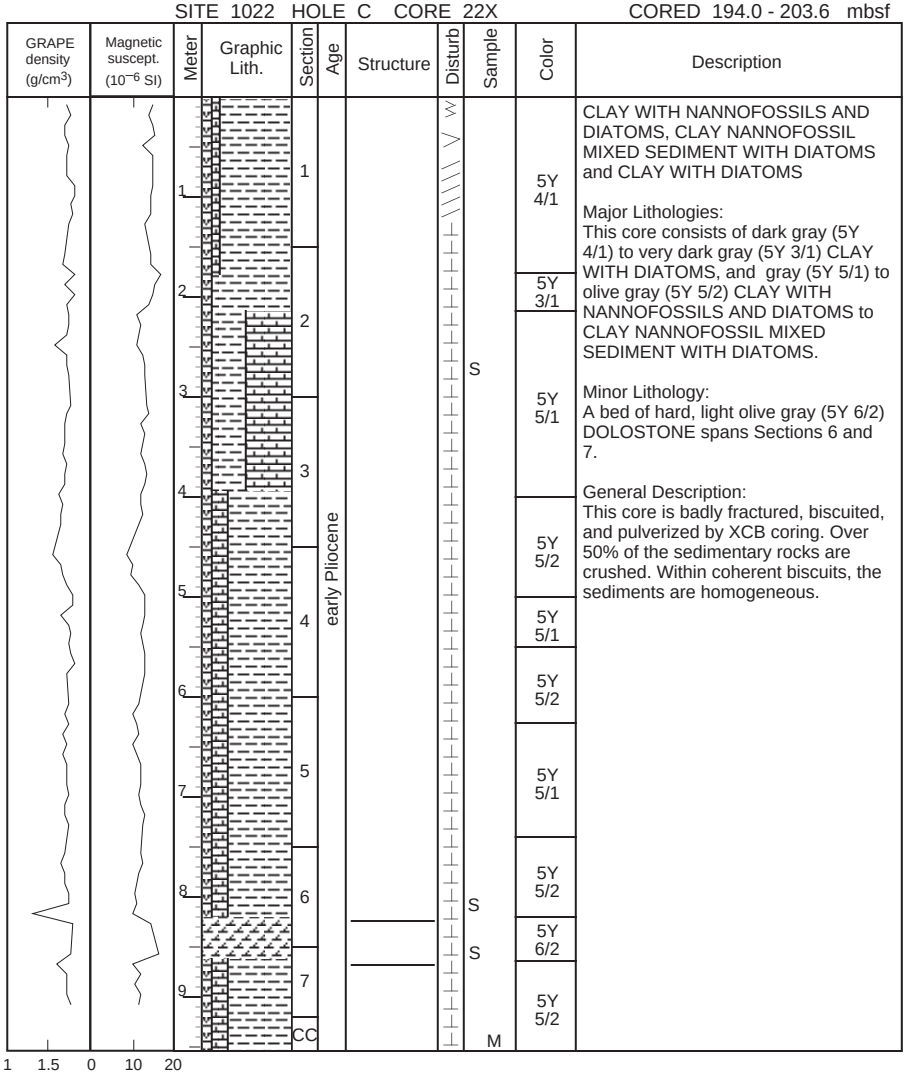
CLAY WITH DIATOMS, SILT, AND NANNOFOSSILS and NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS AND SILT

Major Lithologies:
This core consists of dark gray (5Y 4/1) to olive gray (5Y 4/2) CLAY WITH DIATOMS, SILT, AND NANNOFOSSILS and olive gray (5Y 5/2) to light olive gray (5Y 6/2) NANNOFOSSIL CLAY MIXED SEDIMENT WITH DIATOMS AND SILT.

Minor Lithology:
A 3-cm diameter nodule of BARITE WITH CLAY occurs within the disturbed interval at Section 1, 44 cm and may be slough from above.

General Description:
The core is badly fractured and biscuited, obscuring most primary features. Nonetheless, parts of Sections 3 and 5 do display moderate bioturbation.

SITE 1022 HOLE C CORE 22X CORED 194.0 - 203.6 mbsf



Description

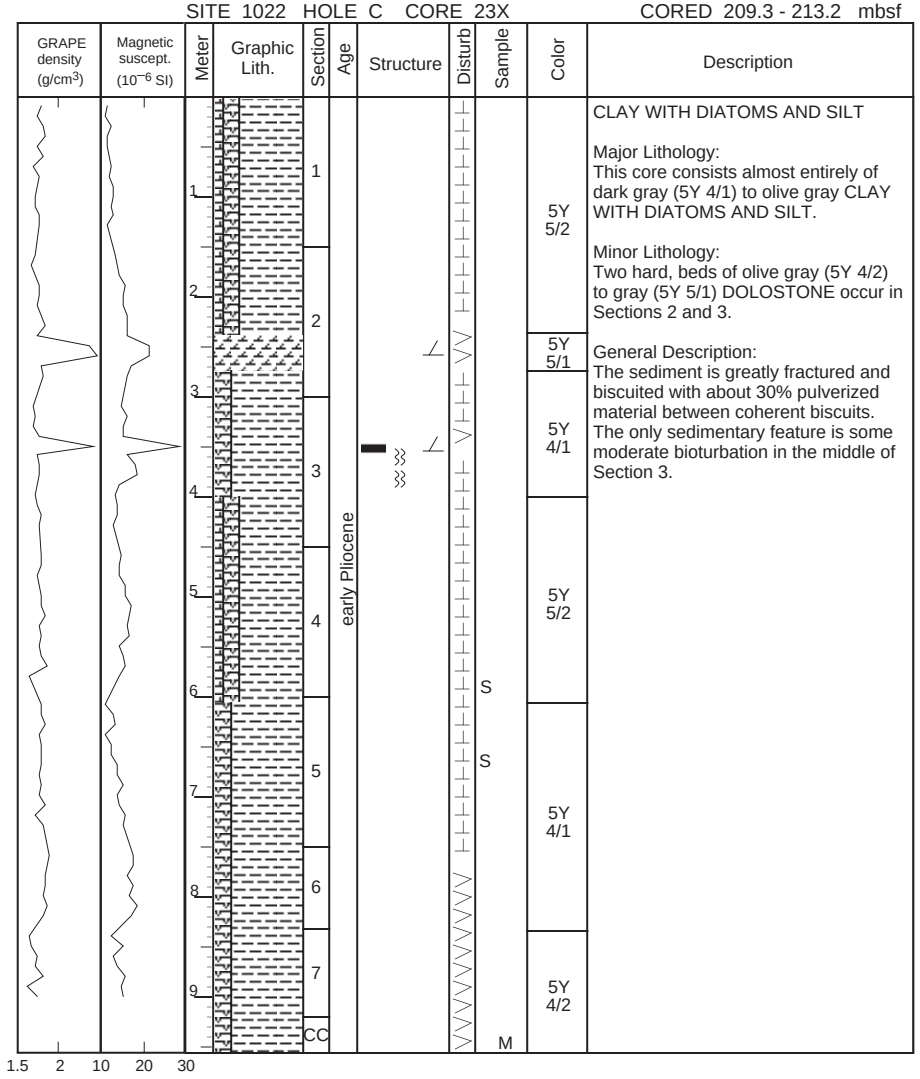
CLAY WITH NANNOFOSSILS AND DIATOMS, CLAY NANNOFOSSIL MIXED SEDIMENT WITH DIATOMS and CLAY WITH DIATOMS

Major Lithologies:
This core consists of dark gray (5Y 4/1) to very dark gray (5Y 3/1) CLAY WITH DIATOMS, and gray (5Y 5/1) to olive gray (5Y 5/2) CLAY WITH NANNOFOSSILS AND DIATOMS to CLAY NANNOFOSSIL MIXED SEDIMENT WITH DIATOMS.

Minor Lithology:
A bed of hard, light olive gray (5Y 6/2) DOLOSTONE spans Sections 6 and 7.

General Description:
This core is badly fractured, biscuited, and pulverized by XCB coring. Over 50% of the sedimentary rocks are crushed. Within coherent biscuits, the sediments are homogeneous.

SITE 1022 HOLE C CORE 23X CORED 209.3 - 213.2 mbsf

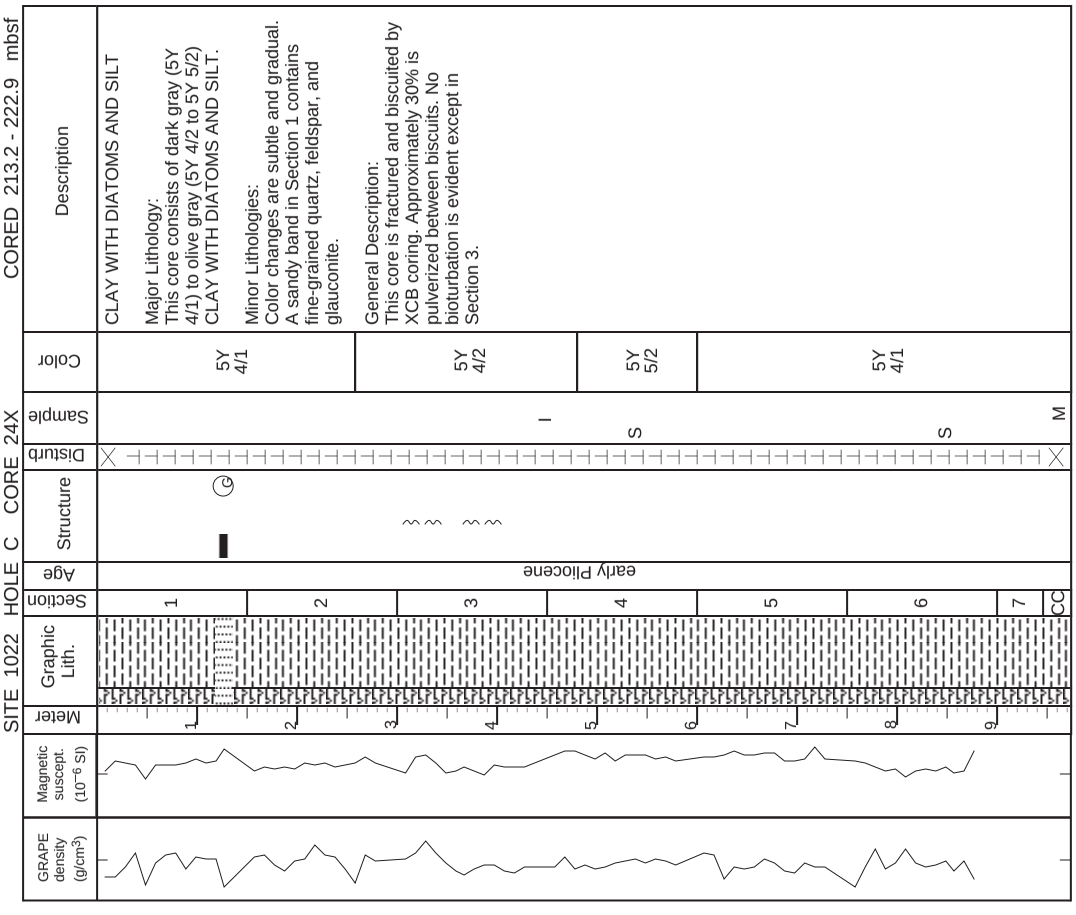


CLAY WITH DIATOMS AND SILT

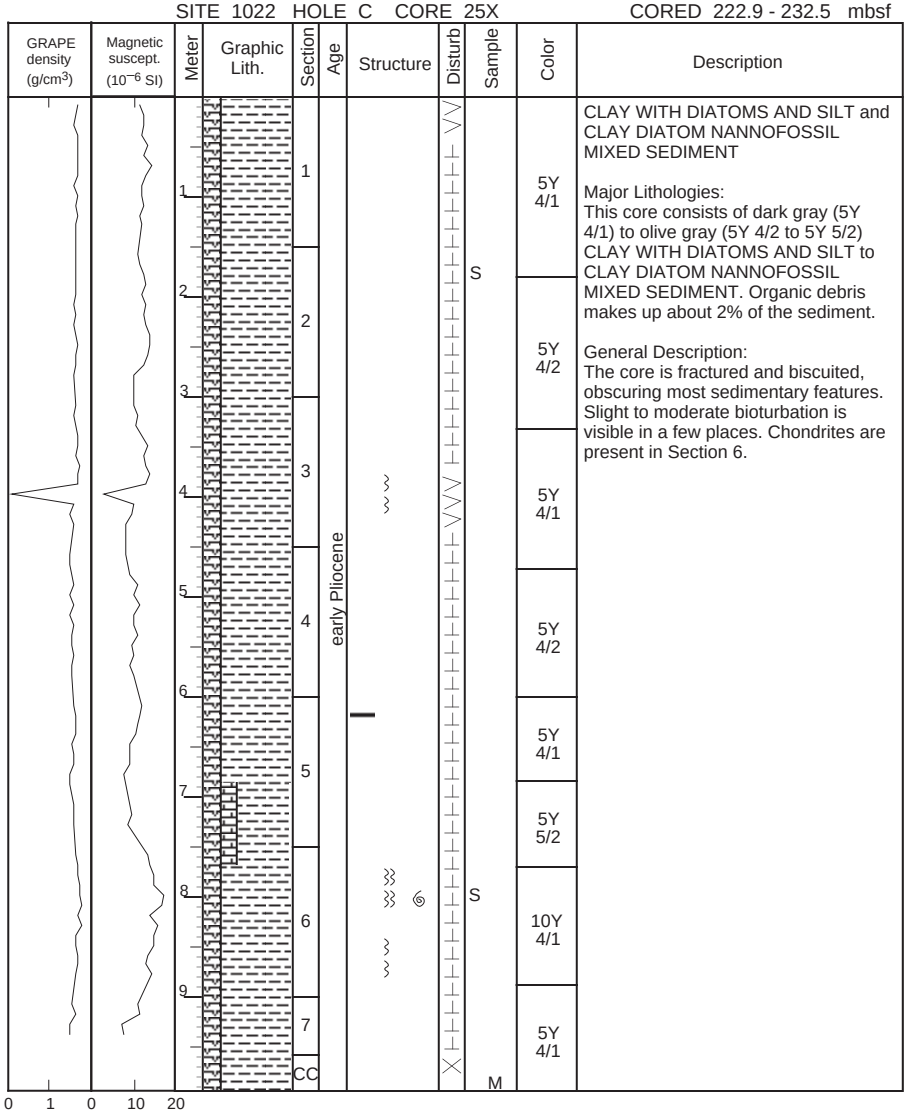
Major Lithology:
This core consists almost entirely of dark gray (5Y 4/1) to olive gray CLAY WITH DIATOMS AND SILT.

Minor Lithology:
Two hard, beds of olive gray (5Y 4/2) to gray (5Y 5/1) DOLOSTONE occur in Sections 2 and 3.

General Description:
The sediment is greatly fractured and biscuited with about 30% pulverized material between coherent biscuits. The only sedimentary feature is some moderate bioturbation in the middle of Section 3.


SITE 1022 HOLE C CORE 24X CORED 213.2 - 222.9 mbsf
GRAPE density (g/cm3)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
1.5 1.75 0 10 20
1 2 3 4 5 6 7 CC
early Pliocene
5Y 4/1
5Y 4/2
5Y 5/2
5Y 4/1
I S S M
CLAY WITH DIATOMS AND SILT
Major Lithology:
This core consists of dark gray (5Y 4/1) to olive gray (5Y 4/2 to 5Y 5/2) CLAY WITH DIATOMS AND SILT.
Minor Lithologies:
Color changes are subtle and gradual. A sandy band in Section 1 contains fine-grained quartz, feldspar, and glauconite.
General Description:
This core is fractured and biscuited by XCB coring. Approximately 30% is pulverized between biscuits. No bioturbation is evident except in Section 3.

SITE 1022 HOLE C CORE 25X CORED 222.9 - 232.5 mbsf

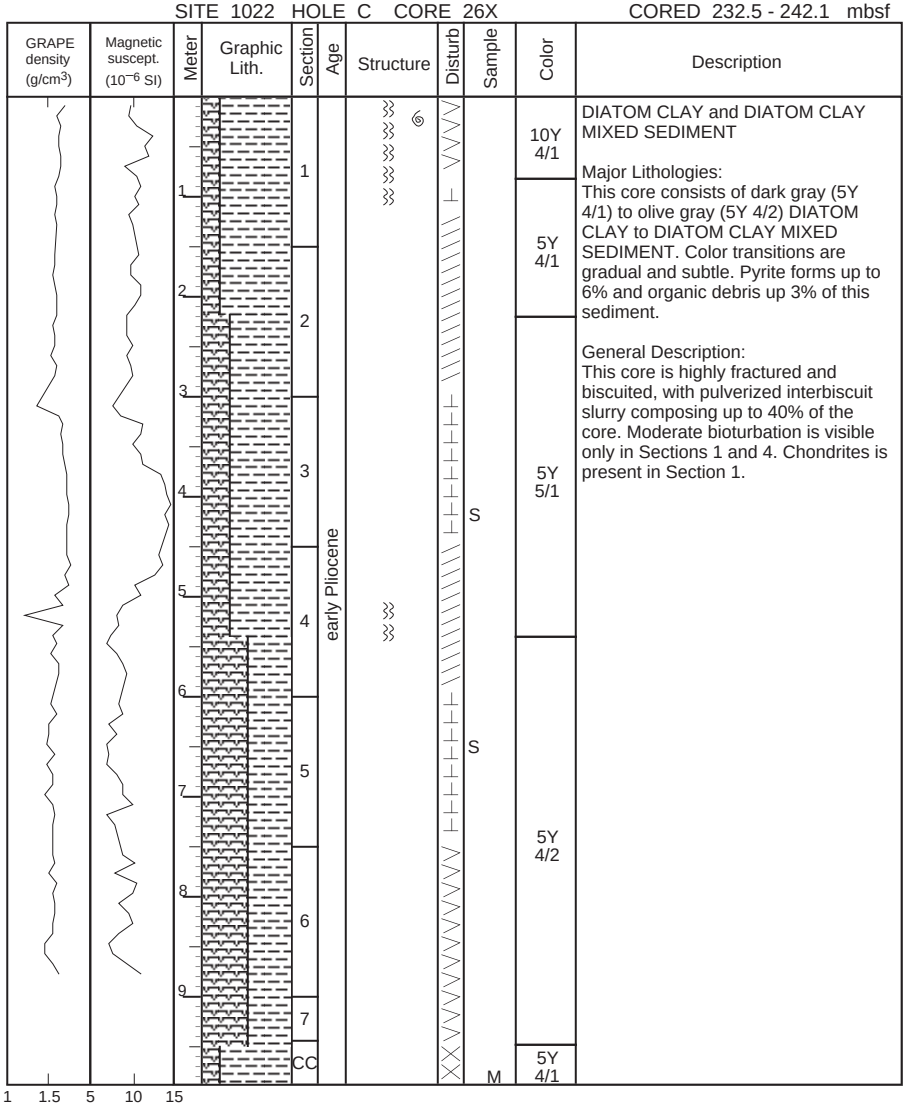


CLAY WITH DIATOMS AND SILT and CLAY DIATOM NANNOFOSSIL MIXED SEDIMENT

Major Lithologies:
This core consists of dark gray (5Y 4/1) to olive gray (5Y 4/2 to 5Y 5/2) CLAY WITH DIATOMS AND SILT to CLAY DIATOM NANNOFOSSIL MIXED SEDIMENT. Organic debris makes up about 2% of the sediment.

General Description:
The core is fractured and biscuited, obscuring most sedimentary features. Slight to moderate bioturbation is visible in a few places. Chondrites are present in Section 6.

SITE 1022 HOLE C CORE 26X CORED 232.5 - 242.1 mbsf

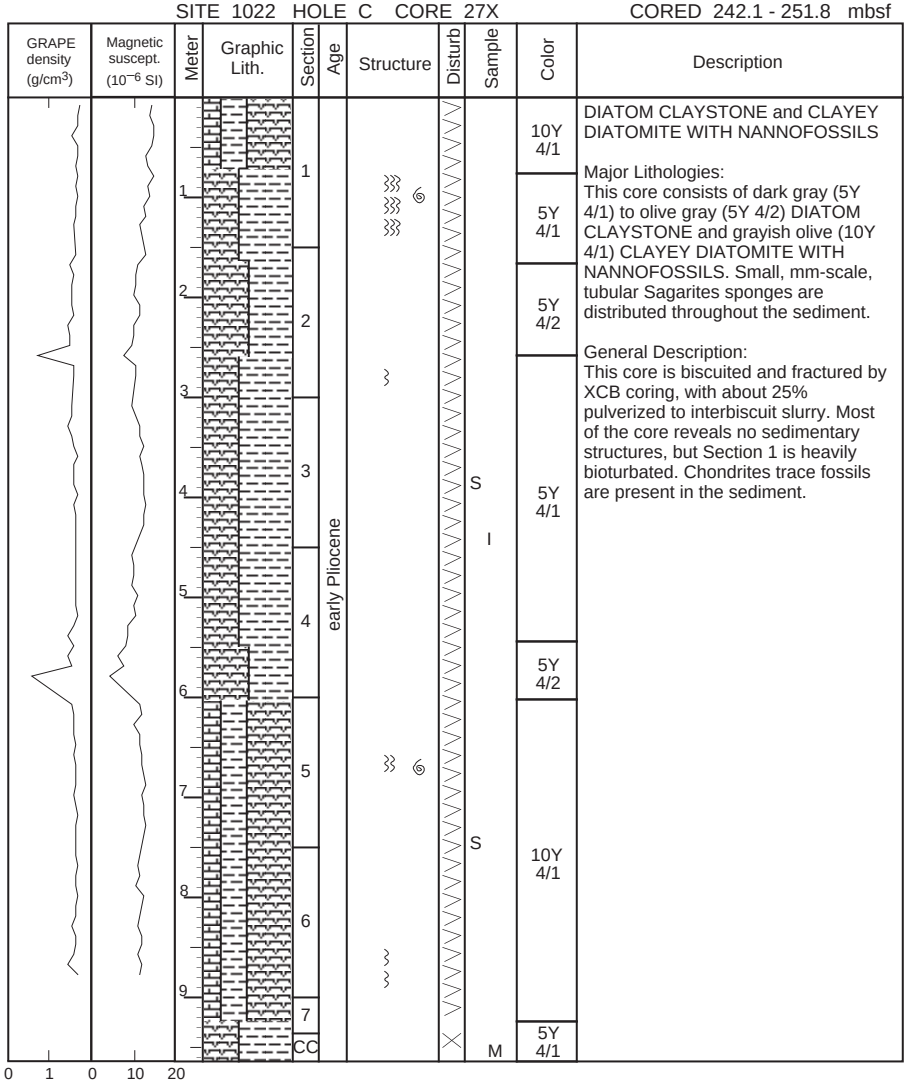


DIATOM CLAY and DIATOM CLAY MIXED SEDIMENT

Major Lithologies:
This core consists of dark gray (5Y 4/1) to olive gray (5Y 4/2) DIATOM CLAY to DIATOM CLAY MIXED SEDIMENT. Color transitions are gradual and subtle. Pyrite forms up to 6% and organic debris up 3% of this sediment.

General Description:
This core is highly fractured and biscuited, with pulverized interbiscuit slurry composing up to 40% of the core. Moderate bioturbation is visible only in Sections 1 and 4. Chondrites is present in Section 1.

SITE 1022 HOLE C CORE 27X CORED 242.1 - 251.8 mbsf

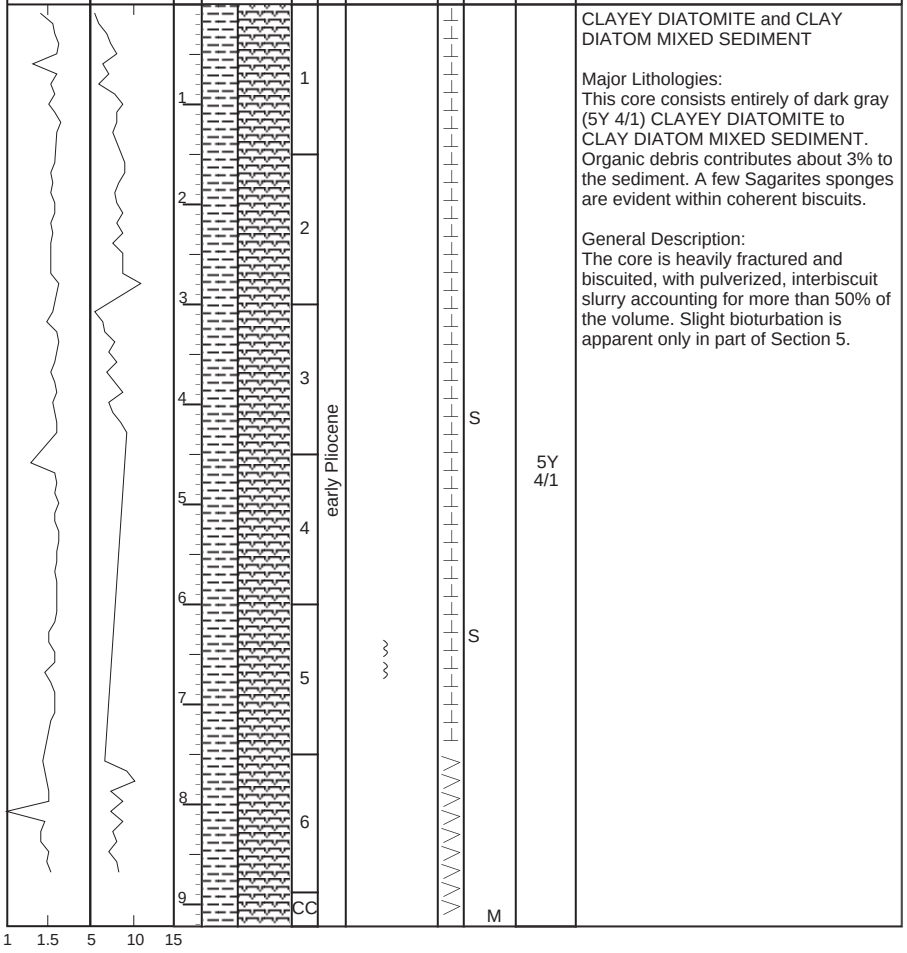


DIATOM CLAYSTONE and CLAYEY DIATOMITE WITH NANNOFOSSILS

Major Lithologies:
This core consists of dark gray (5Y 4/1) to olive gray (5Y 4/2) DIATOM CLAYSTONE and grayish olive (10Y 4/1) CLAYEY DIATOMITE WITH NANNOFOSSILS. Small, mm-scale, tubular Sagarites sponges are distributed throughout the sediment.

General Description:
This core is biscuited and fractured by XCB coring, with about 25% pulverized to interbiscuit slurry. Most of the core reveals no sedimentary structures, but Section 1 is heavily bioturbated. Chondrites trace fossils are present in the sediment.

SITE 1022 HOLE C CORE 28X CORED 251.8 - 261.4 mbsf

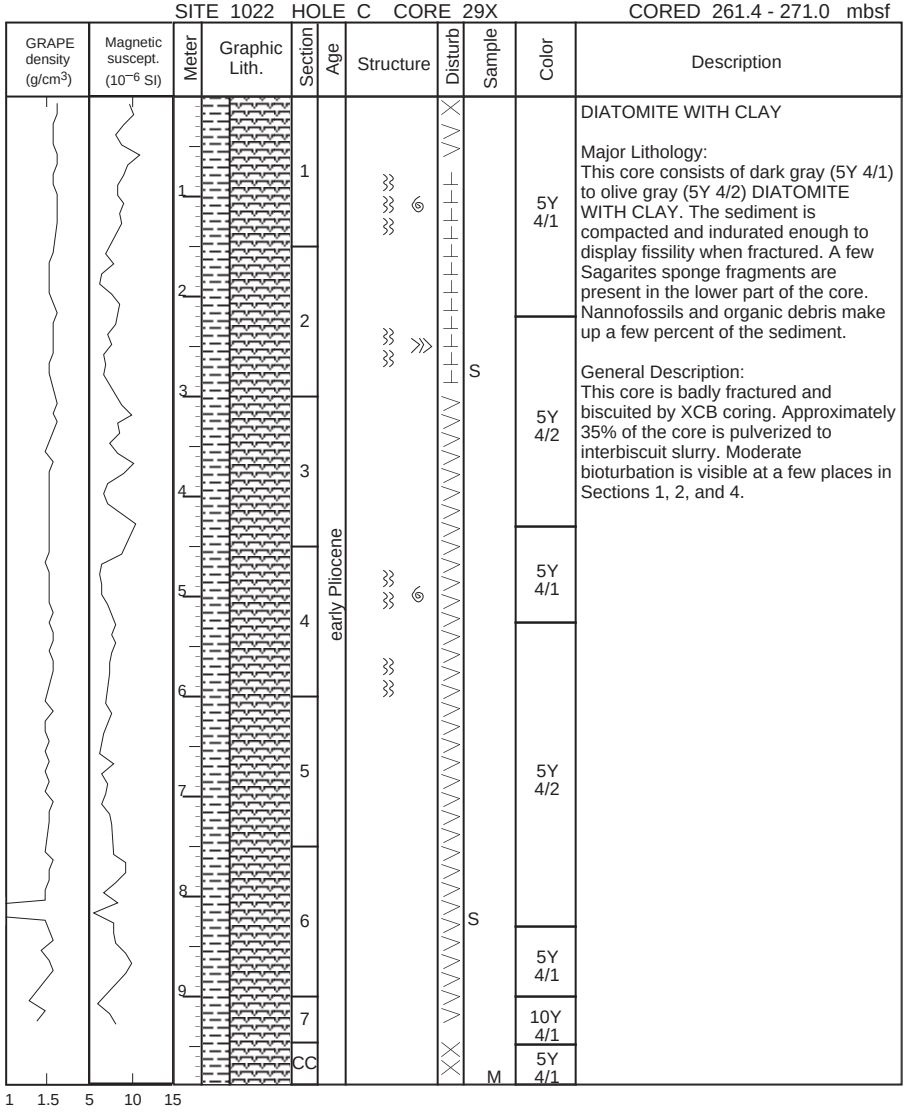


CLAYEY DIATOMITE and CLAY DIATOM MIXED SEDIMENT

Major Lithologies:
This core consists entirely of dark gray (5Y 4/1) CLAYEY DIATOMITE to CLAY DIATOM MIXED SEDIMENT. Organic debris contributes about 3% to the sediment. A few Sagarites sponges are evident within coherent biscuits.

General Description:
The core is heavily fractured and biscuited, with pulverized, interbiscuit slurry accounting for more than 50% of the volume. Slight bioturbation is apparent only in part of Section 5.

SITE 1022 HOLE C CORE 29X CORED 261.4 - 271.0 mbsf

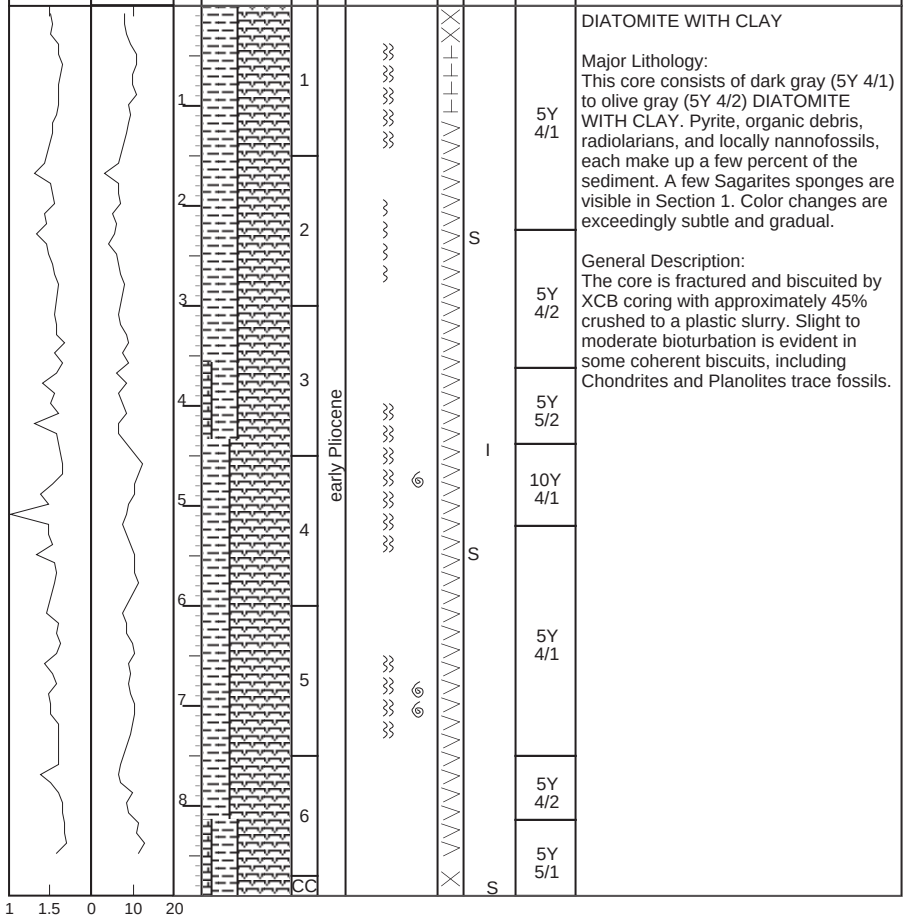


DIATOMITE WITH CLAY

Major Lithology:
This core consists of dark gray (5Y 4/1) to olive gray (5Y 4/2) DIATOMITE WITH CLAY. The sediment is compacted and indurated enough to display fissility when fractured. A few Sagarites sponge fragments are present in the lower part of the core. Nannofossils and organic debris make up a few percent of the sediment.

General Description:
This core is badly fractured and biscuited by XCB coring. Approximately 35% of the core is pulverized to interbiscuit slurry. Moderate bioturbation is visible at a few places in Sections 1, 2, and 4.

SITE 1022 HOLE C CORE 30X CORED 271.0 - 280.6 mbsf

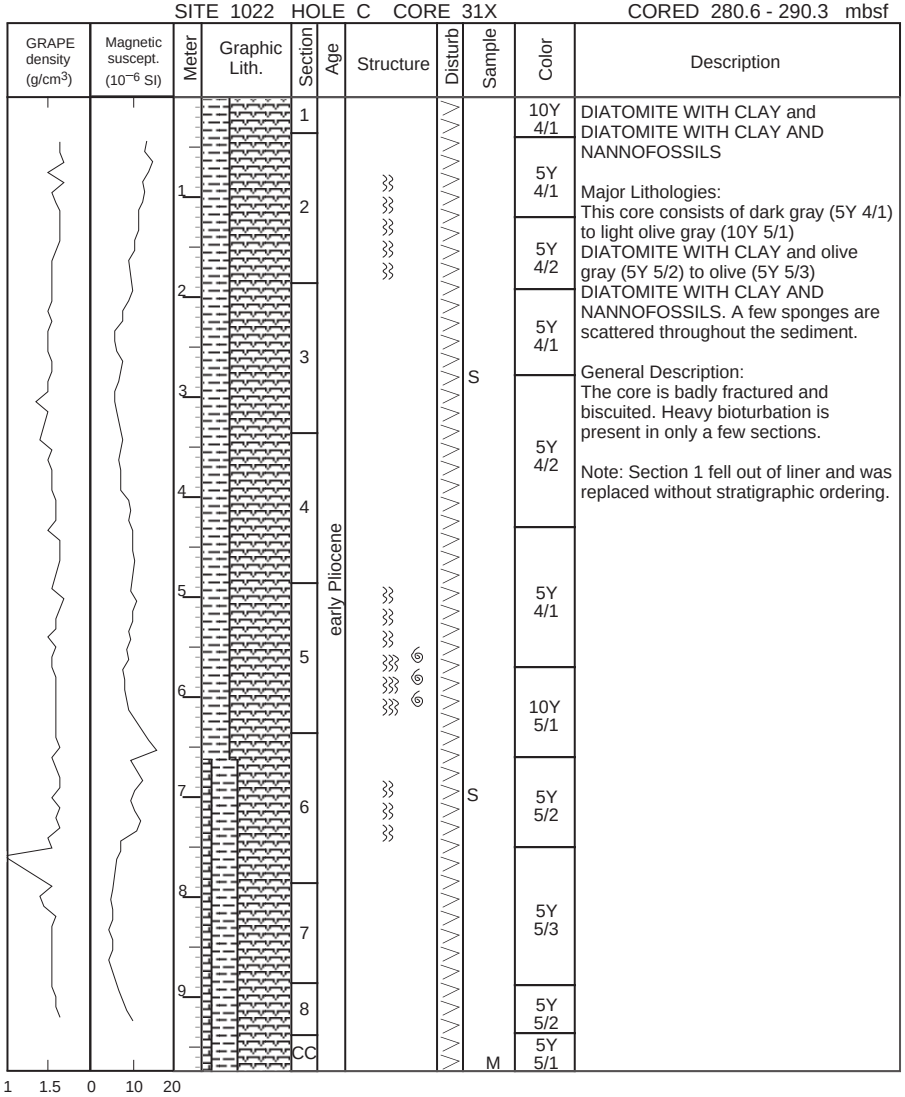


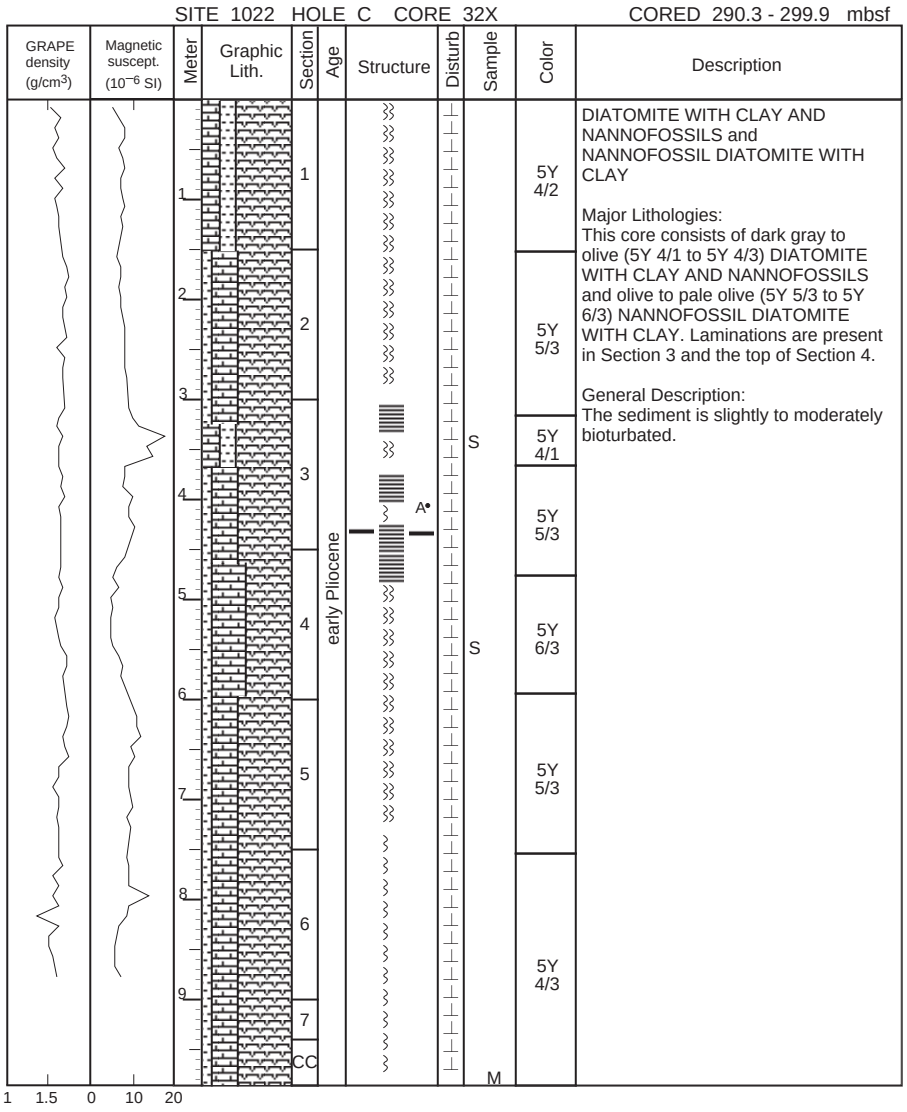
DIATOMITE WITH CLAY

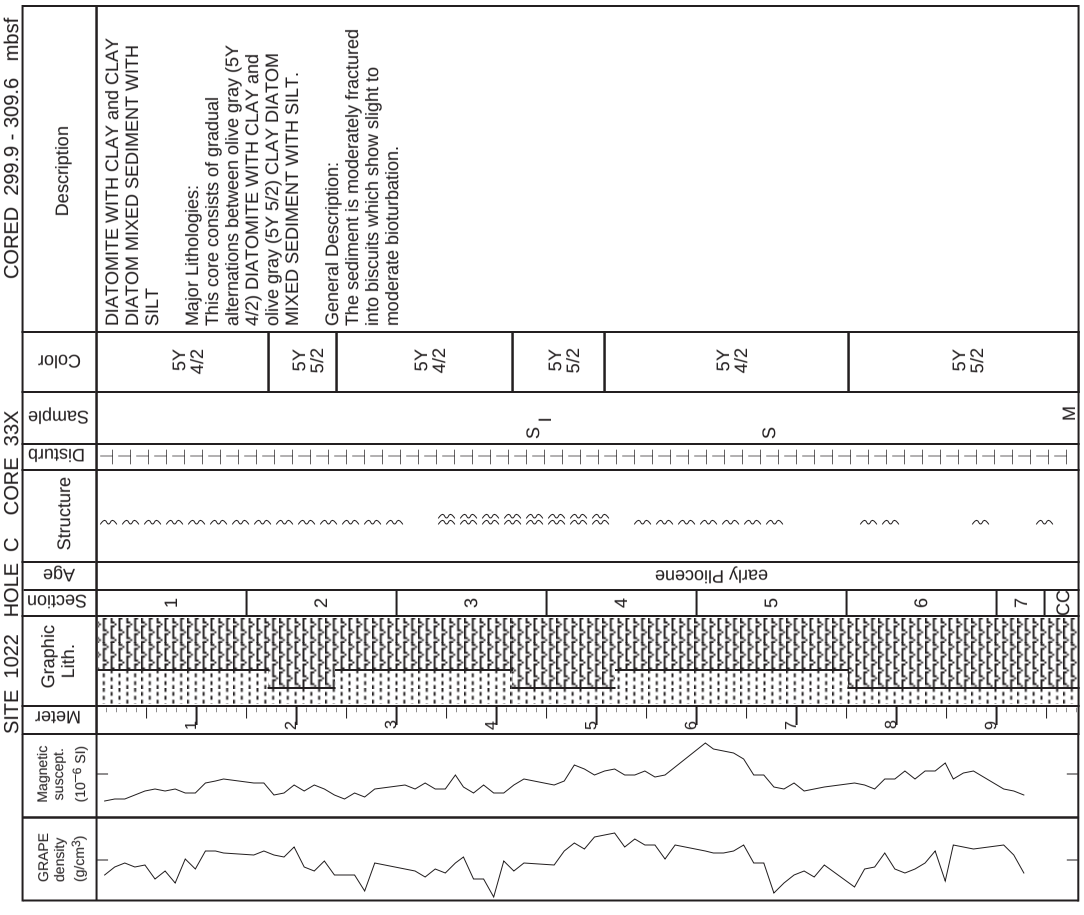
Major Lithology:
This core consists of dark gray (5Y 4/1) to olive gray (5Y 4/2) DIATOMITE WITH CLAY. Pyrite, organic debris, radiolarians, and locally nannofossils, each make up a few percent of the sediment. A few Sagarites sponges are visible in Section 1. Color changes are exceedingly subtle and gradual.

General Description:
The core is fractured and biscuited by XCB coring with approximately 45% crushed to a plastic slurry. Slight to moderate bioturbation is evident in some coherent biscuits, including Chondrites and Planolites trace fossils.

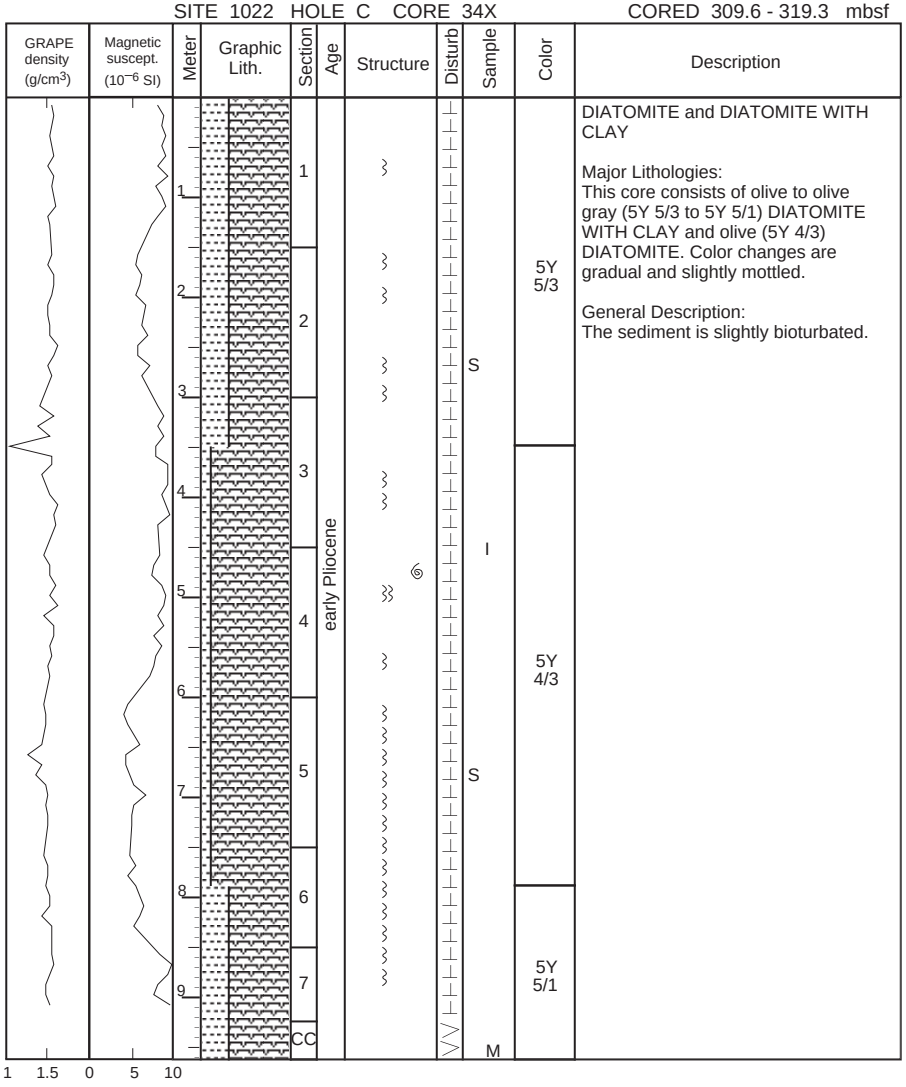
SITE 1022 HOLE C CORE 31X CORED 280.6 - 290.3 mbsf




SITE 1022 HOLE C CORE 32X
CORED 290.3 - 299.9 mbsf
GRAPE density (g/cm3)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
1
2
3
4
5
6
7
CC
early Pliocene
A°
S
S
M
5Y 4/2
5Y 5/3
5Y 4/1
5Y 5/3
5Y 6/3
5Y 5/3
5Y 4/3
DIATOMITE WITH CLAY AND NANNOFOSSILS and NANNOFOSSIL DIATOMITE WITH CLAY
Major Lithologies:
This core consists of dark gray to olive (5Y 4/1 to 5Y 4/3) DIATOMITE WITH CLAY AND NANNOFOSSILS and olive to pale olive (5Y 5/3 to 5Y 6/3) NANNOFOSSIL DIATOMITE WITH CLAY. Laminations are present in Section 3 and the top of Section 4.
General Description:
The sediment is slightly to moderately bioturbated.
1 1.5 0 10 20


SITE 1022 HOLE C CORE 33X CORED 299.9 - 309.6 mbsf
GRAPE density (g/cm3)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
early Pliocene
DIATOMITE WITH CLAY and CLAY DIATOM MIXED SEDIMENT WITH SILT
Major Lithologies:
This core consists of gradual alternations between olive gray (5Y 4/2) DIATOMITE WITH CLAY and olive gray (5Y 5/2) CLAY DIATOM MIXED SEDIMENT WITH SILT.
General Description:
The sediment is moderately fractured into biscuits which show slight to moderate bioturbation.
5Y 4/2
5Y 5/2
5Y 4/2
5Y 5/2
5Y 4/2
5Y 5/2
1.4 1.6
5 10 15

SITE 1022 HOLE C CORE 34X CORED 309.6 - 319.3 mbsf

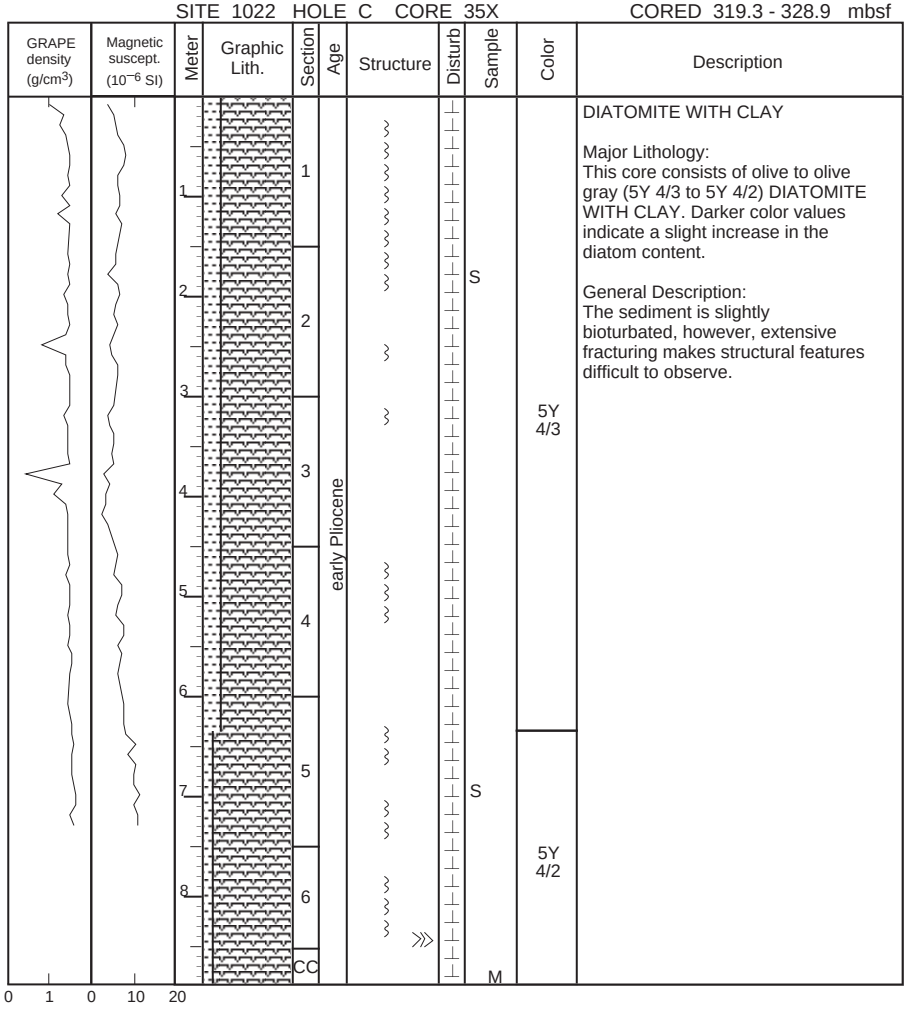


DIATOMITE and DIATOMITE WITH CLAY

Major Lithologies:
This core consists of olive to olive gray (5Y 5/3 to 5Y 5/1) DIATOMITE WITH CLAY and olive (5Y 4/3) DIATOMITE. Color changes are gradual and slightly mottled.

General Description:
The sediment is slightly bioturbated.

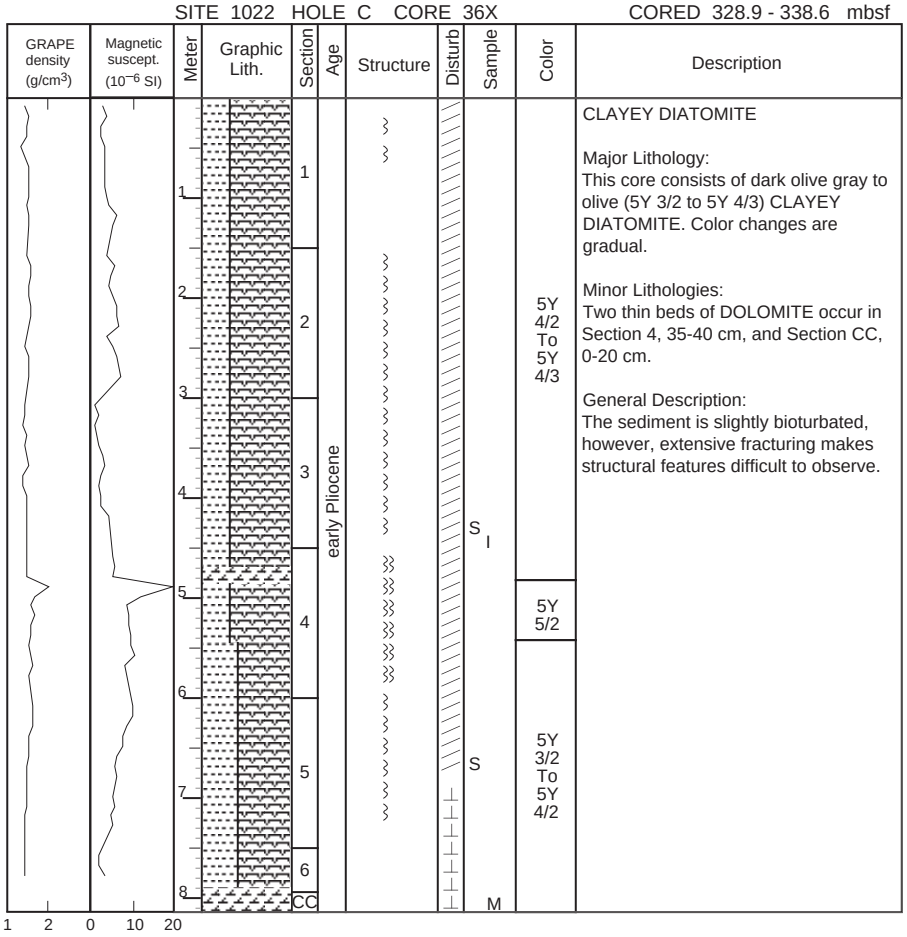
SITE 1022 HOLE C CORE 35X CORED 319.3 - 328.9 mbsf



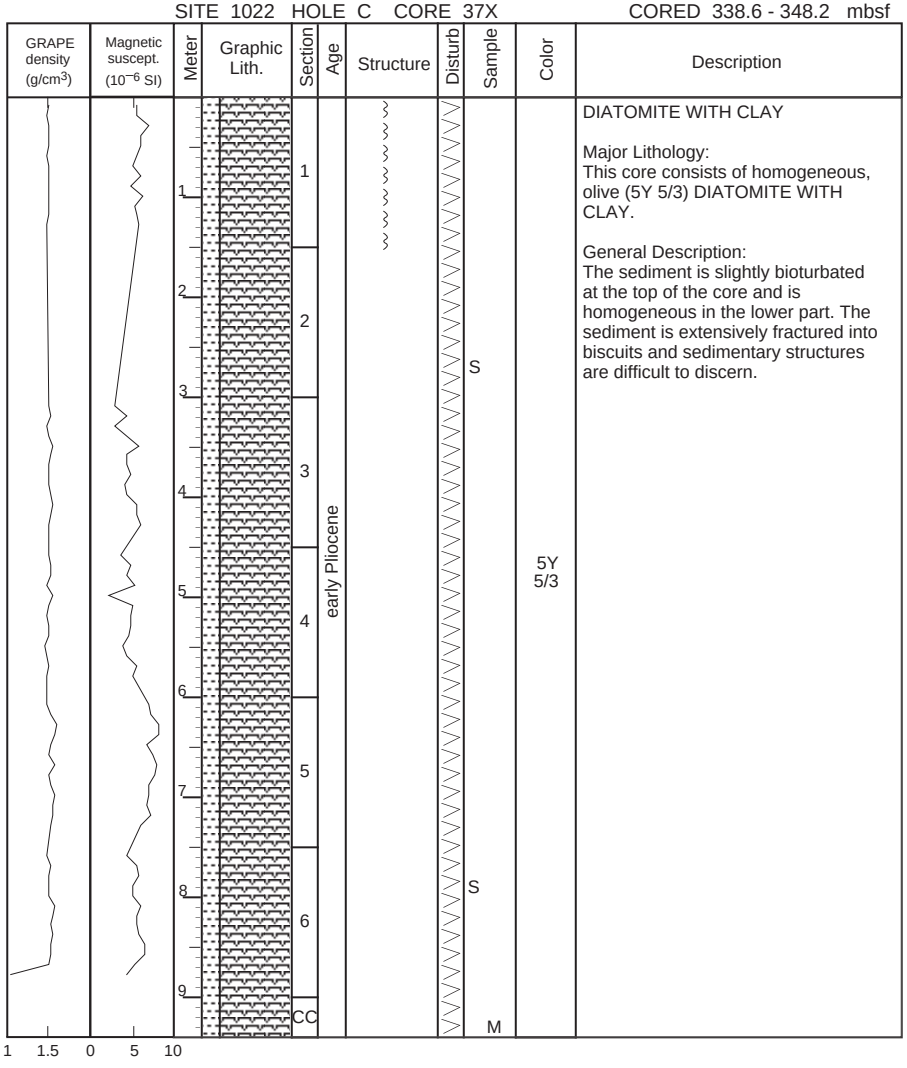
DIATOMITE WITH CLAY

Major Lithology:
This core consists of olive to olive gray (5Y 4/3 to 5Y 4/2) DIATOMITE WITH CLAY. Darker color values indicate a slight increase in the diatom content.

General Description:
The sediment is slightly bioturbated, however, extensive fracturing makes structural features difficult to observe.


SITE 1022 HOLE C CORE 36X
CORED 328.9 - 338.6 mbsf
GRAPE density (g/cm3)
Magnetic suscept. (10−6 SI)
Meter
Graphic Lith.
Section
Age
Structure
Disturb
Sample
Color
Description
early Pliocene
S
I
S
M
5Y 4/2 To 5Y 4/3
5Y 5/2
5Y 3/2 To 5Y 4/2
CLAYEY DIATOMITE
Major Lithology:
This core consists of dark olive gray to olive (5Y 3/2 to 5Y 4/3) CLAYEY DIATOMITE. Color changes are gradual.
Minor Lithologies:
Two thin beds of DOLOMITE occur in Section 4, 35-40 cm, and Section CC, 0-20 cm.
General Description:
The sediment is slightly bioturbated, however, extensive fracturing makes structural features difficult to observe.
1 2 0 10 20

SITE 1022 HOLE C CORE 37X CORED 338.6 - 348.2 mbsf

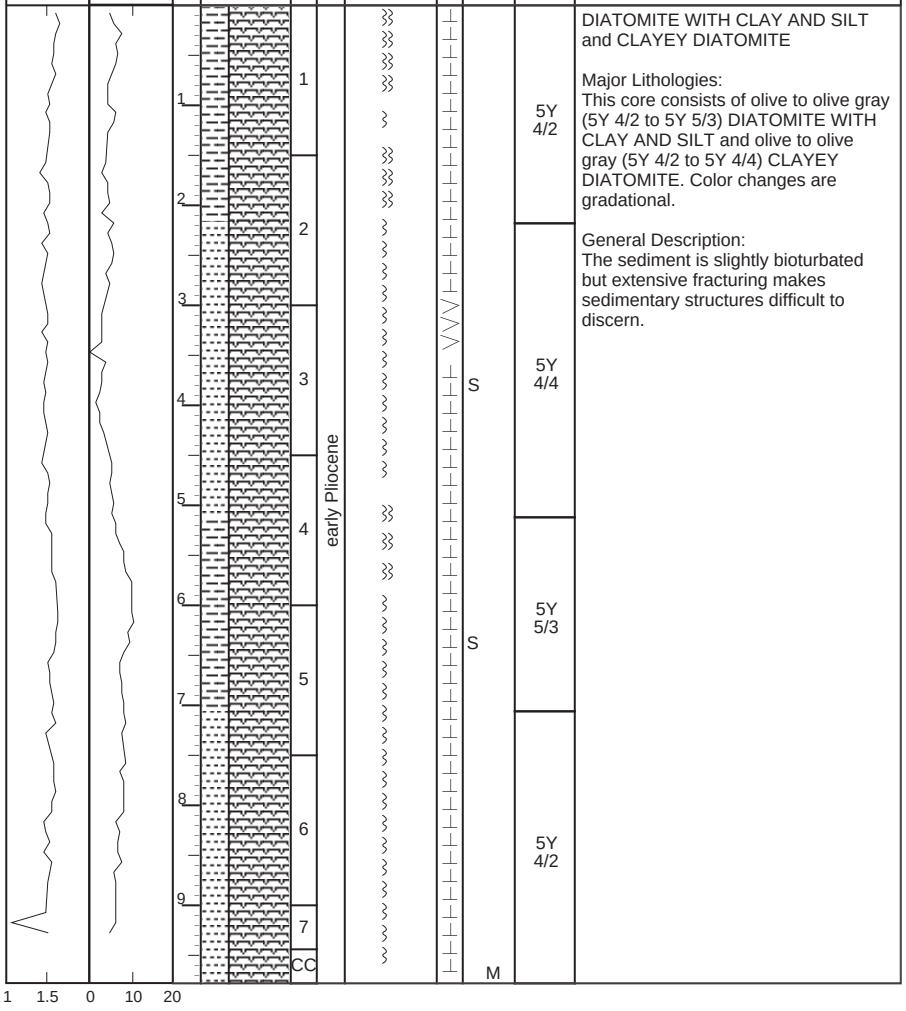


DIATOMITE WITH CLAY

Major Lithology:
This core consists of homogeneous, olive (5Y 5/3) DIATOMITE WITH CLAY.

General Description:
The sediment is slightly bioturbated at the top of the core and is homogeneous in the lower part. The sediment is extensively fractured into biscuits and sedimentary structures are difficult to discern.

SITE 1022 HOLE C CORE 38X CORED 348.2 - 357.8 mbsf

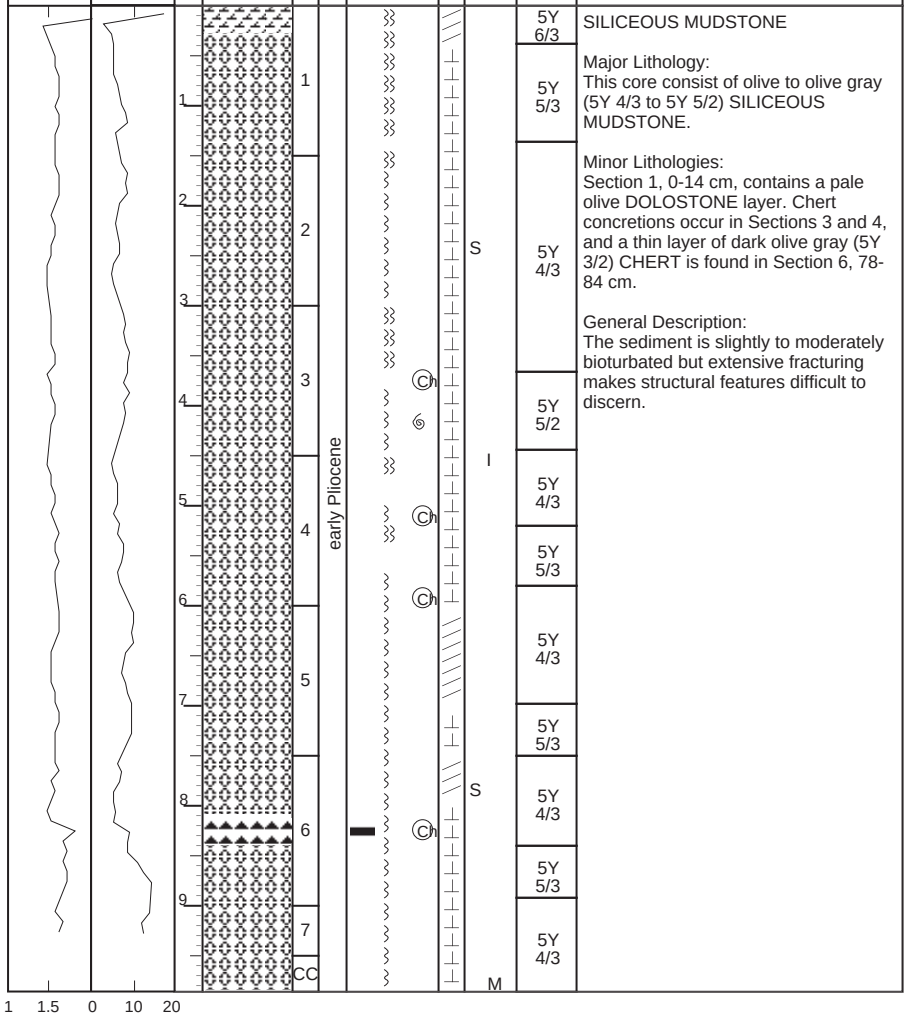


DIATOMITE WITH CLAY AND SILT and CLAYEY DIATOMITE

Major Lithologies:
This core consists of olive to olive gray (5Y 4/2 to 5Y 5/3) DIATOMITE WITH CLAY AND SILT and olive to olive gray (5Y 4/2 to 5Y 4/4) CLAYEY DIATOMITE. Color changes are gradational.

General Description:
The sediment is slightly bioturbated but extensive fracturing makes sedimentary structures difficult to discern.

SITE 1022 HOLE C CORE 39X CORED 357.8 - 367.4 mbsf



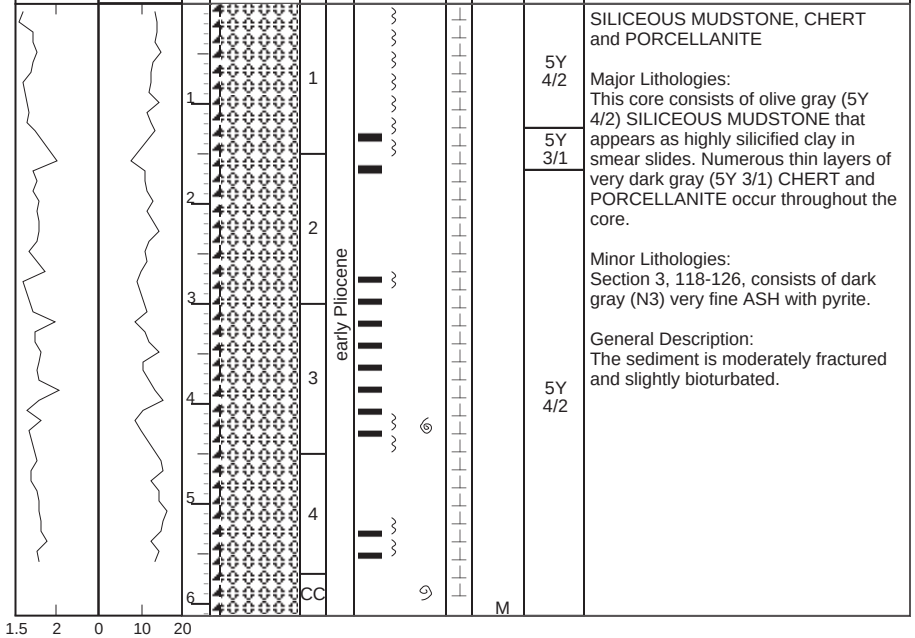
SILICEOUS MUDSTONE

Major Lithology:
This core consist of olive to olive gray (5Y 4/3 to 5Y 5/2) SILICEOUS MUDSTONE.

Minor Lithologies:
Section 1, 0-14 cm, contains a pale olive DOLOSTONE layer. Chert concretions occur in Sections 3 and 4, and a thin layer of dark olive gray (5Y 3/2) CHERT is found in Section 6, 78-84 cm.

General Description:
The sediment is slightly to moderately bioturbated but extensive fracturing makes structural features difficult to discern.

SITE 1022 HOLE C CORE 40X CORED 367.4 - 374.0 mbsf



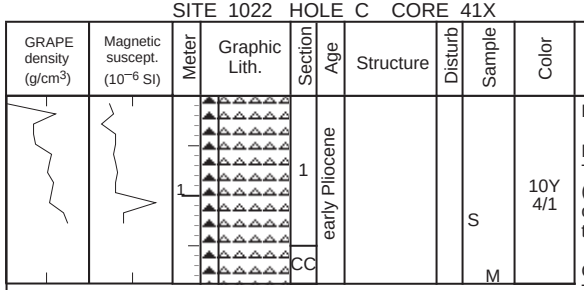
SILICEOUS MUDSTONE, CHERT and PORCELLANITE

Major Lithologies:
This core consists of olive gray (5Y 4/2) SILICEOUS MUDSTONE that appears as highly silicified clay in smear slides. Numerous thin layers of very dark gray (5Y 3/1) CHERT and PORCELLANITE occur throughout the core.

Minor Lithologies:
Section 3, 118-126, consists of dark gray (N3) very fine ASH with pyrite.

General Description:
The sediment is moderately fractured and slightly bioturbated.

SITE 1022 HOLE C CORE 41X CORED 374.0 - 383.5 mbsf

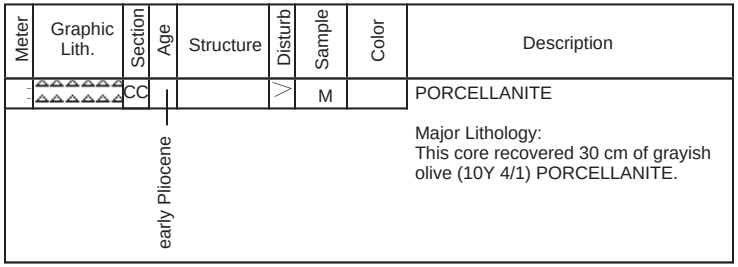


PORCELLANITE and CHERT

Major Lithologies:
This core consists of light grayish olive (10Y 4/1) PORCELLANITE. Thin beds of black (5Y 2.5/2) CHERT occur near the top of Section 1 and in Section CC.

General Description:
The core is extensively fractured and no structural features are discernable.

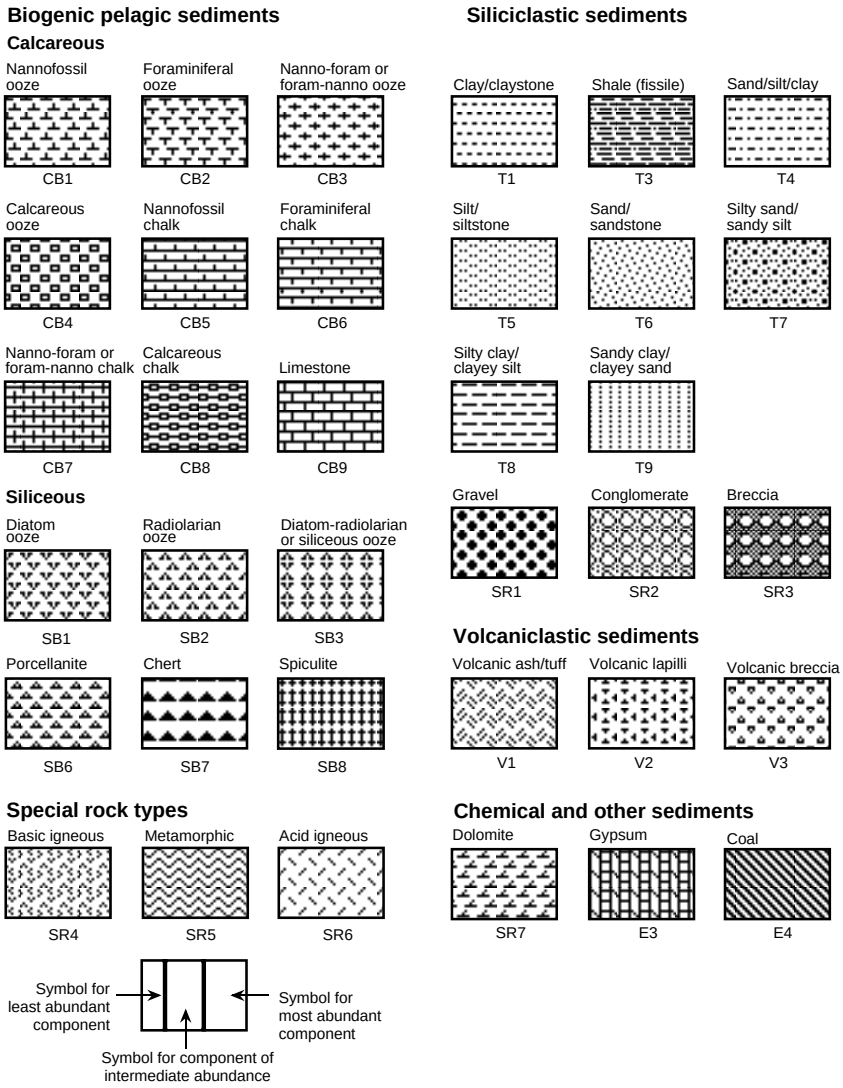
SITE 1022 HOLE C CORE 42X CORED 383.5 - 387.7 mbsf



PORCELLANITE

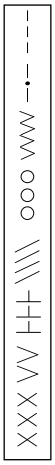
Major Lithology:
This core recovered 30 cm of grayish olive (10Y 4/1) PORCELLANITE.

Key to symbols used in the “Graphic Lithology” column on the core description sheets.



Key to symbols used in the "Structures" column on the core description sheets.

Drilling disturbance symbols



Soft sediments

- Slightly disturbed
- Moderately disturbed
- Highly disturbed
- Soupy

Hard sediments

- Slightly fractured
- Moderately fractured
- Highly fragmented
- Drilling breccia

Sedimentary structures

- Burrows, rare (<30% surface area)
- Burrows, common (30%–60% surface area)
- Burrows, abundant (>60% surface area)
- Discrete *Zoophycos* trace fossil
- Discrete *Chondrites* trace fossil
- *Sagarites* sponge
- Gastropods
- Other bivalves
- Shell fragments
- Wood framents
- Fish debris

Sedimentary structures cont.

- Fining-upward sequence
- Interval over which primary sedimentary structure occur
- Planar laminae
- Wedge-planar laminae/beds
- Graded bedding (normal)
- Graded bedding (reversed)
- Sharp contact
- Gradational contact
- Scoured, sharp contact
- Scoured contact with graded bed
- Thick color bands (sharp contact)
- Thick color bands (gradational contact)
- Medium color bands (sharp contact)
- Medium color bands (gradational contact)
- Thin color bands (sharp contact)
- Thin color bands (gradational contact)
- Laminations (mm scale)
- Individual thick color band
- Individual medium color band
- Individual thin color band
- Individual lamination
- Wavy lamination
- Cross laminae
- Cross stratification
- Cross bedding
- Convoluted/contorted bedding
- Flaser bedding
- Graded interval, normal
- Veins
- Water escape structure
- Scour

- Isolated pebbles/cobbles
- Isolated mud clasts
- Slump blocks or slump folds
- Contorted slump
- Probable compaction fracture
- Microfault (normal)
- Microfault (thrust)
- Macrofault
- Fracture
- Totally fractured
- Vein structures
- Color mottles
- Dolomite nodule/concretion
- D — Disseminated dolomite
- P — Pyrite nodule/concretion
- P — Disseminated pyrite
- G — Glauconite
- Concretions/nodules
- Ba — Barite nodule/concretion
- Ba — Disseminated barite
- Ca — Calcite nodule/concretion
- C — Carbonate nodule/concretion
- Ch — Chert nodule/concretion
- A — Ash/pumice pods
- A — Ash layer