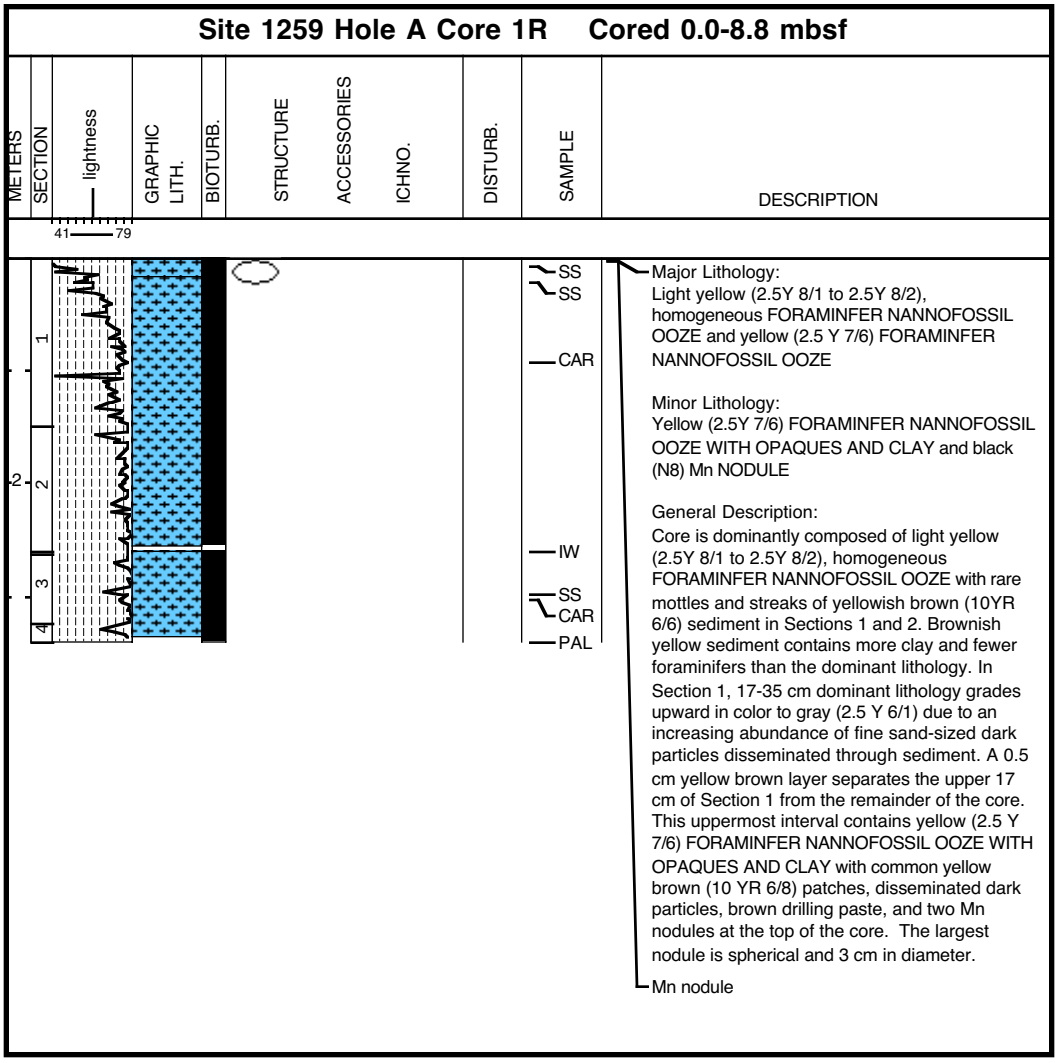
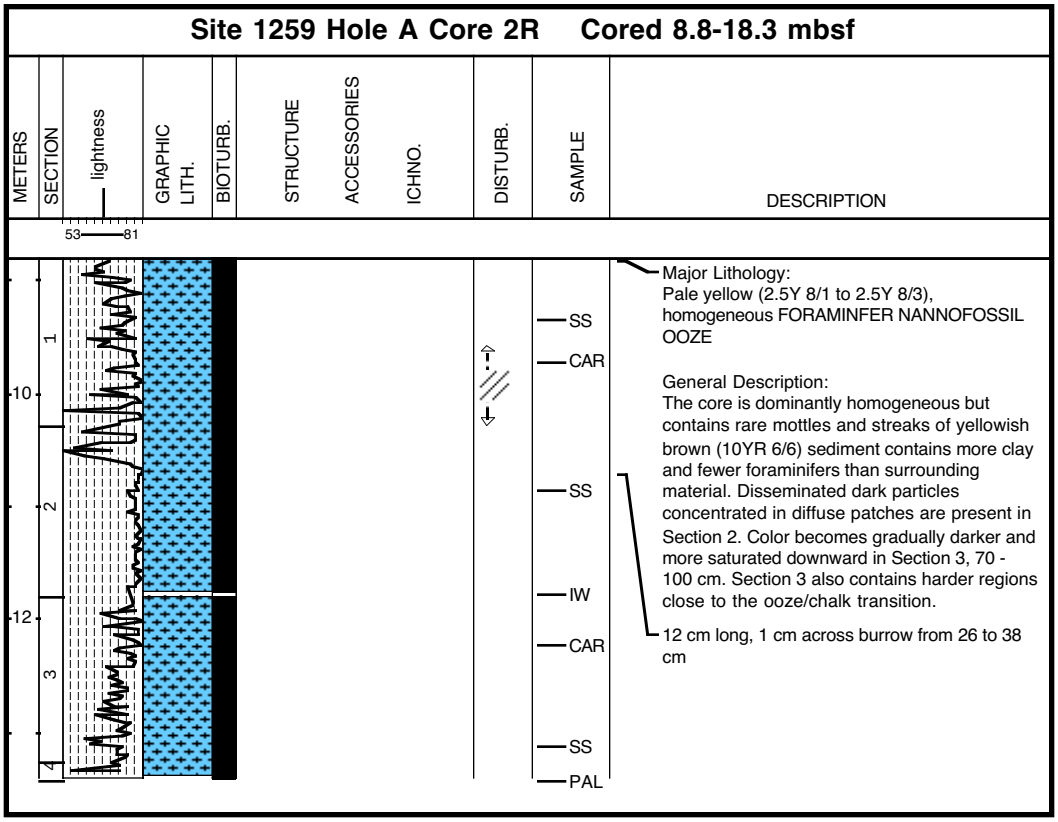
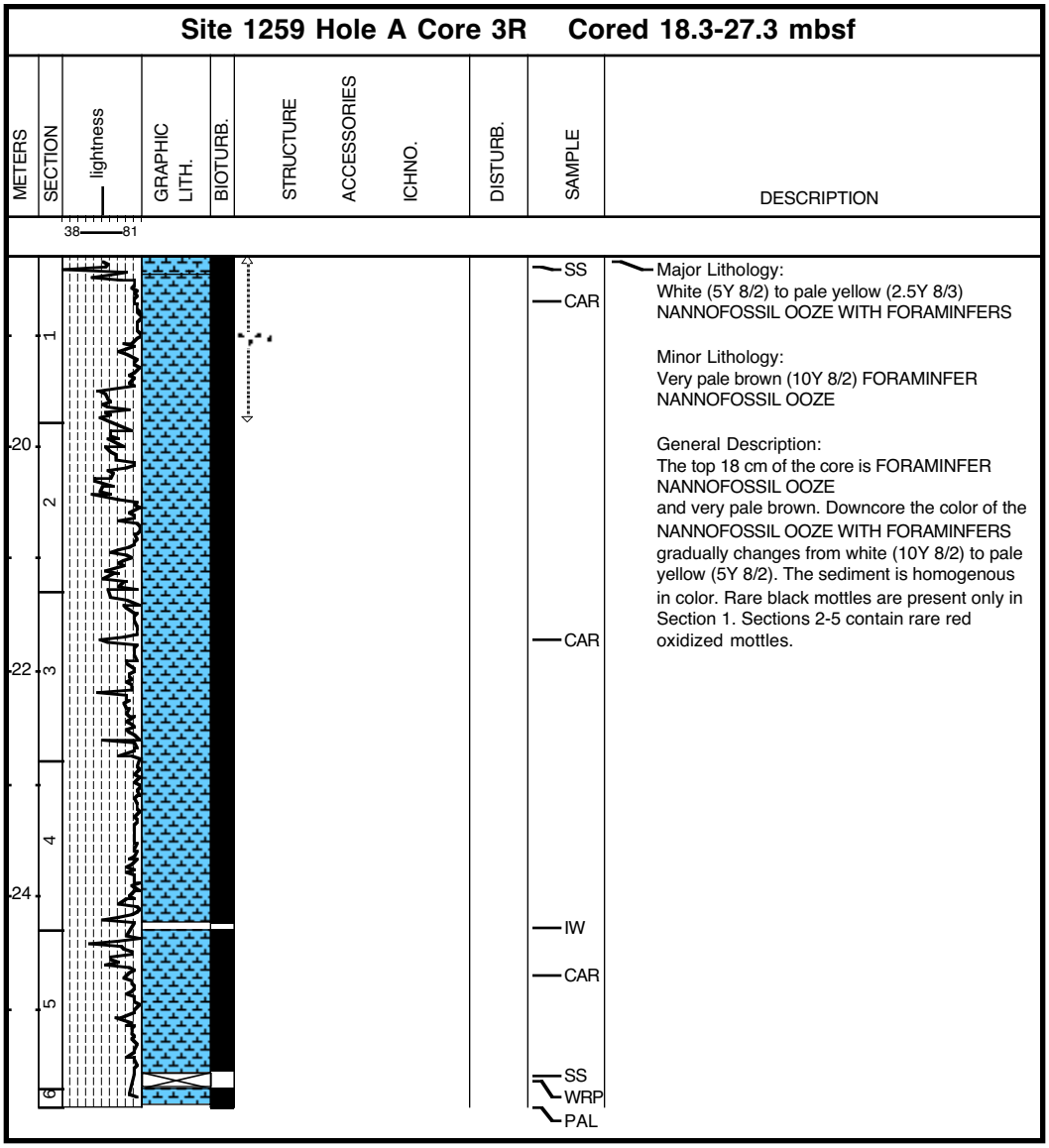
Core Photo


Site 1259 Hole A Core 1R Cored 0.0-8.8 mbsf
METERS
SECTION
lightness
41
79
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
1
2
3
4
SS
SS
CAR
IW
SS
CAR
PAL
Major Lithology:
Light yellow (2.5Y 8/1 to 2.5Y 8/2), homogeneous FORAMINFER NANNOFOSSIL OOZE and yellow (2.5 Y 7/6) FORAMINFER NANNOFOSSIL OOZE
Minor Lithology:
Yellow (2.5Y 7/6) FORAMINFER NANNOFOSSIL OOZE WITH OPAQUES AND CLAY and black (N8) Mn NODULE
General Description:
Core is dominantly composed of light yellow (2.5Y 8/1 to 2.5Y 8/2), homogeneous FORAMINFER NANNOFOSSIL OOZE with rare mottles and streaks of yellowish brown (10YR 6/6) sediment in Sections 1 and 2. Brownish yellow sediment contains more clay and fewer foraminifers than the dominant lithology. In Section 1, 17-35 cm dominant lithology grades upward in color to gray (2.5 Y 6/1) due to an increasing abundance of fine sand-sized dark particles disseminated through sediment. A 0.5 cm yellow brown layer separates the upper 17 cm of Section 1 from the remainder of the core. This uppermost interval contains yellow (2.5 Y 7/6) FORAMINFER NANNOFOSSIL OOZE WITH OPAQUES AND CLAY with common yellow brown (10 YR 6/8) patches, disseminated dark particles, brown drilling paste, and two Mn nodules at the top of the core. The largest nodule is spherical and 3 cm in diameter.
Mn nodule

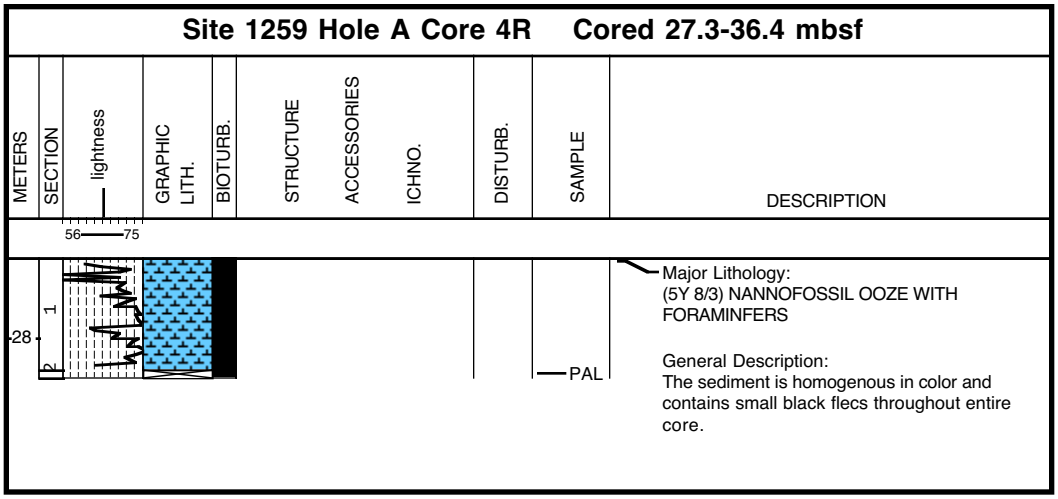
Core Photo


Site 1259 Hole A Core 2R Cored 8.8-18.3 mbsf
METERS
SECTION
lightness
53
81
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
10
12
1
2
3
4
SS
CAR
SS
IW
CAR
SS
PAL
Major Lithology:
Pale yellow (2.5Y 8/1 to 2.5Y 8/3), homogeneous FORAMINFER NANNOFOSSIL OOZE
General Description:
The core is dominantly homogeneous but contains rare mottles and streaks of yellowish brown (10YR 6/6) sediment contains more clay and fewer foraminifers than surrounding material. Disseminated dark particles concentrated in diffuse patches are present in Section 2. Color becomes gradually darker and more saturated downward in Section 3, 70 - 100 cm. Section 3 also contains harder regions close to the ooze/chalk transition.
12 cm long, 1 cm across burrow from 26 to 38 cm

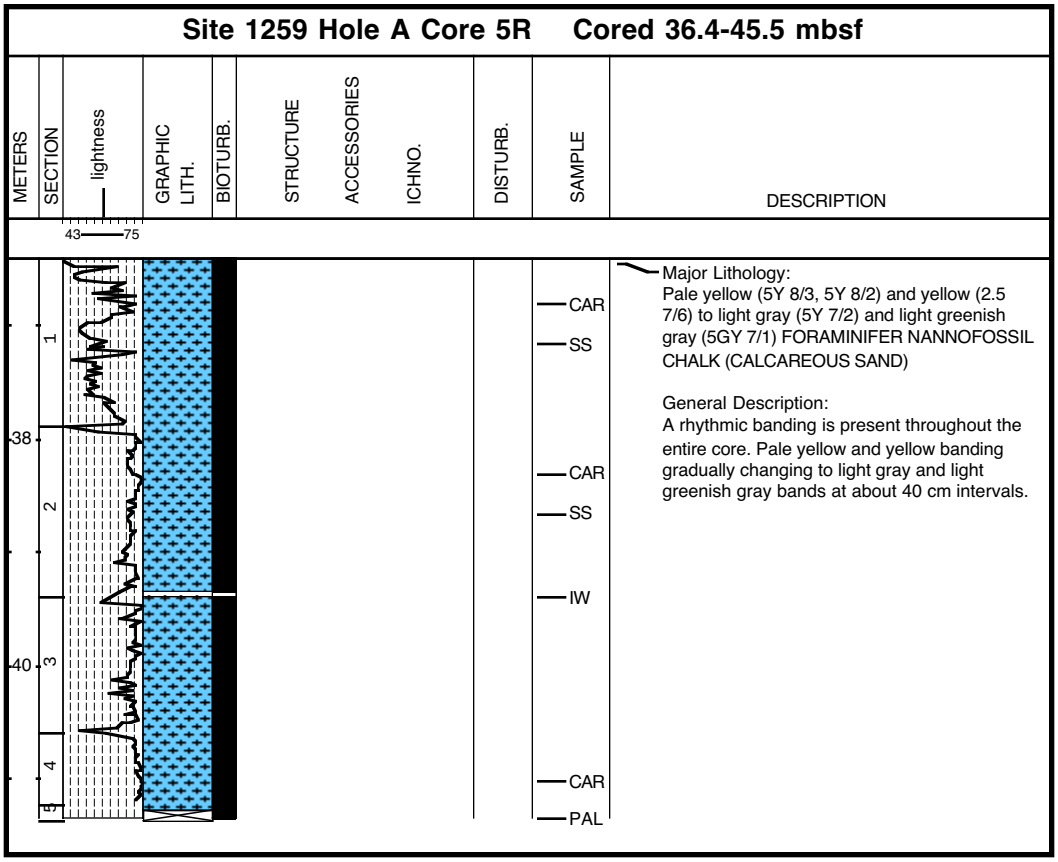
Core Photo


Site 1259 Hole A Core 3R Cored 18.3-27.3 mbsf
METERS
SECTION
lightness
38
81
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
20
22
24
1
2
3
4
5
6
SS
CAR
CAR
IW
CAR
SS
WRP
PAL
Major Lithology:
White (5Y 8/2) to pale yellow (2.5Y 8/3)
NANNOFOSSIL OOZE WITH FORAMINFERS
Minor Lithology:
Very pale brown (10Y 8/2) FORAMINFER
NANNOFOSSIL OOZE
General Description:
The top 18 cm of the core is FORAMINFER
NANNOFOSSIL OOZE
and very pale brown. Downcore the color of the
NANNOFOSSIL OOZE WITH FORAMINFERS
gradually changes from white (10Y 8/2) to pale
yellow (5Y 8/2). The sediment is homogenous
in color. Rare black mottles are present only in
Section 1. Sections 2-5 contain rare red
oxidized mottles.

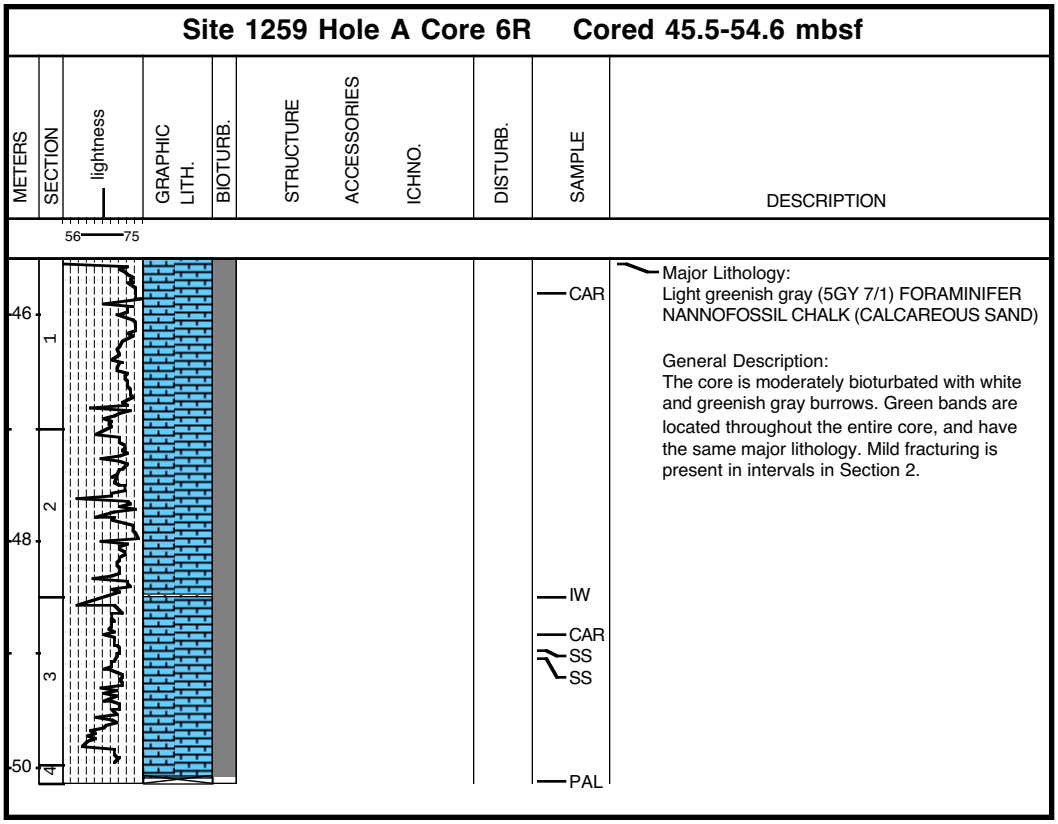
Core Photo


Site 1259 Hole A Core 4R Cored 27.3-36.4 mbsf
METERS
SECTION
lightness
56
75
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
28
1
CC
PAL
Major Lithology:
(5Y 8/3) NANNOFOSSIL OOZE WITH FORAMINFERS
General Description:
The sediment is homogenous in color and contains small black flecs throughout entire core.

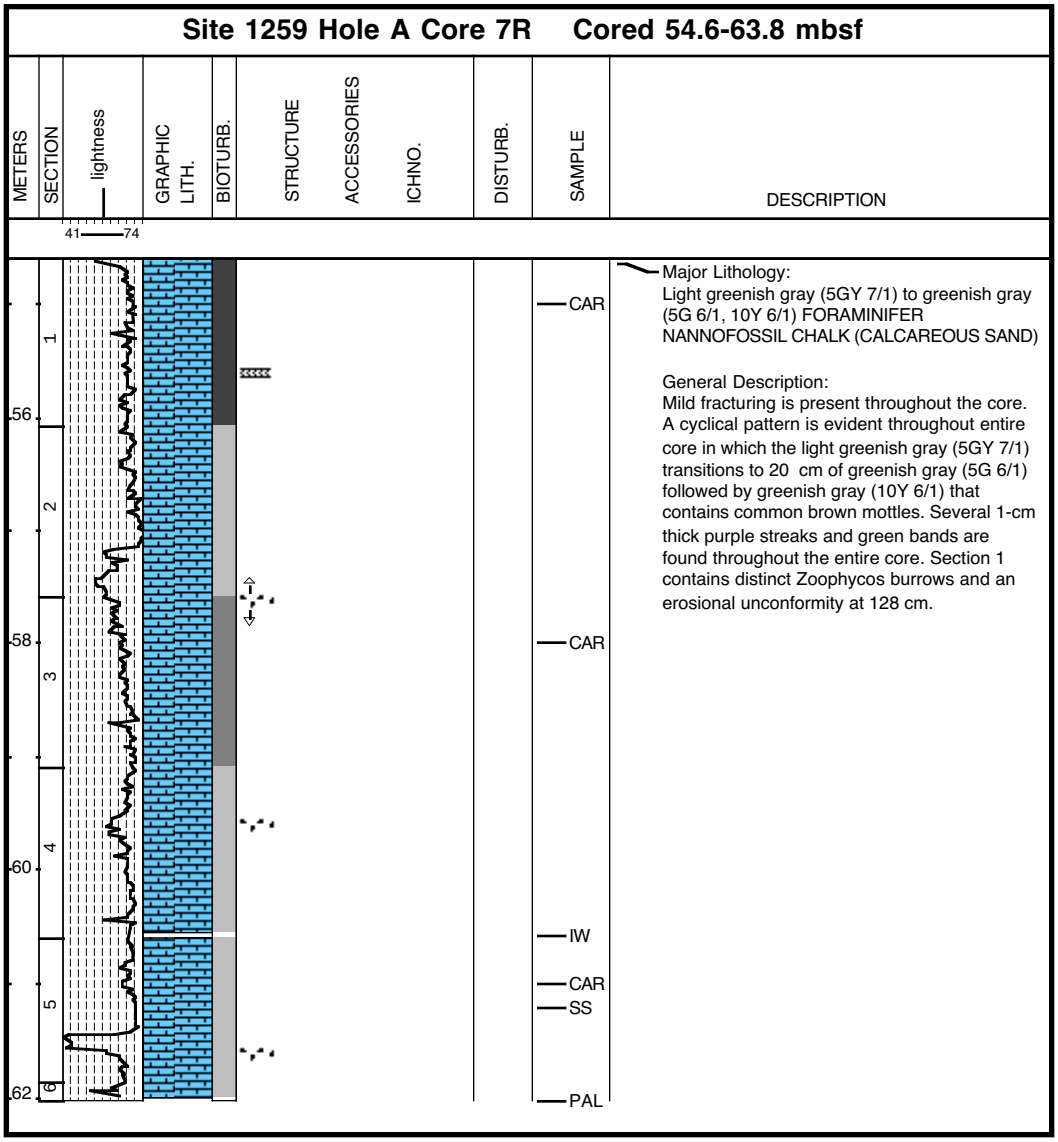
Core Photo


Site 1259 Hole A Core 5R Cored 36.4-45.5 mbsf
METERS
SECTION
lightness
43
75
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
38
40
1
2
3
4
CAR
SS
CAR
SS
IW
CAR
PAL
Major Lithology:
Pale yellow (5Y 8/3, 5Y 8/2) and yellow (2.5 7/6) to light gray (5Y 7/2) and light greenish gray (5GY 7/1) FORAMINIFER NANNOFOSSIL CHALK (CALCAREOUS SAND)
General Description:
A rhythmic banding is present throughout the entire core. Pale yellow and yellow banding gradually changing to light gray and light greenish gray bands at about 40 cm intervals.

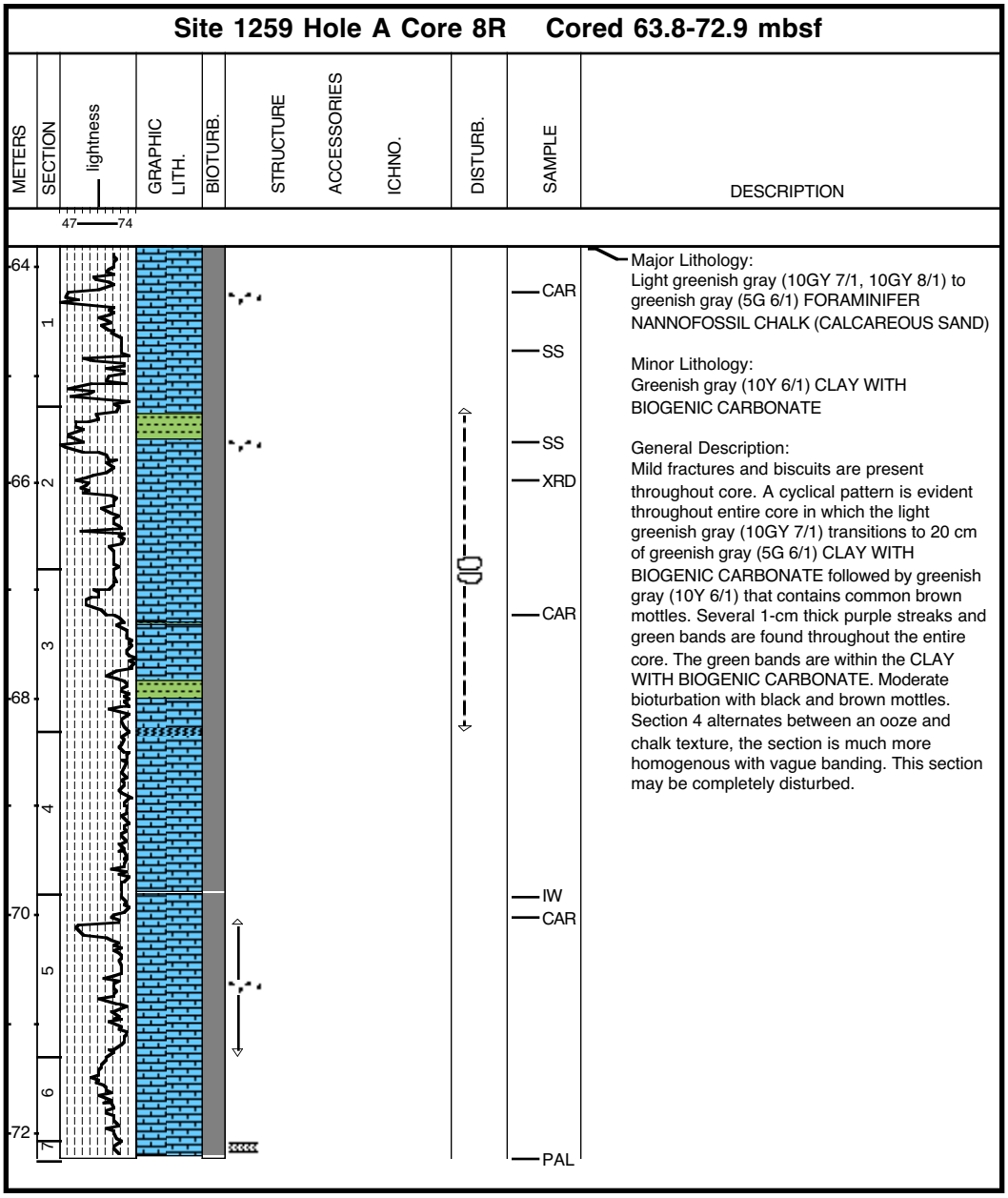
Core Photo


Site 1259 Hole A Core 6R Cored 45.5-54.6 mbsf
METERS
SECTION
lightness
56
75
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
46
48
50
1
2
3
4
CAR
IW
CAR
SS
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) FORAMINIFER NANNOFOSSIL CHALK (CALCAREOUS SAND)
General Description:
The core is moderately bioturbated with white and greenish gray burrows. Green bands are located throughout the entire core, and have the same major lithology. Mild fracturing is present in intervals in Section 2.

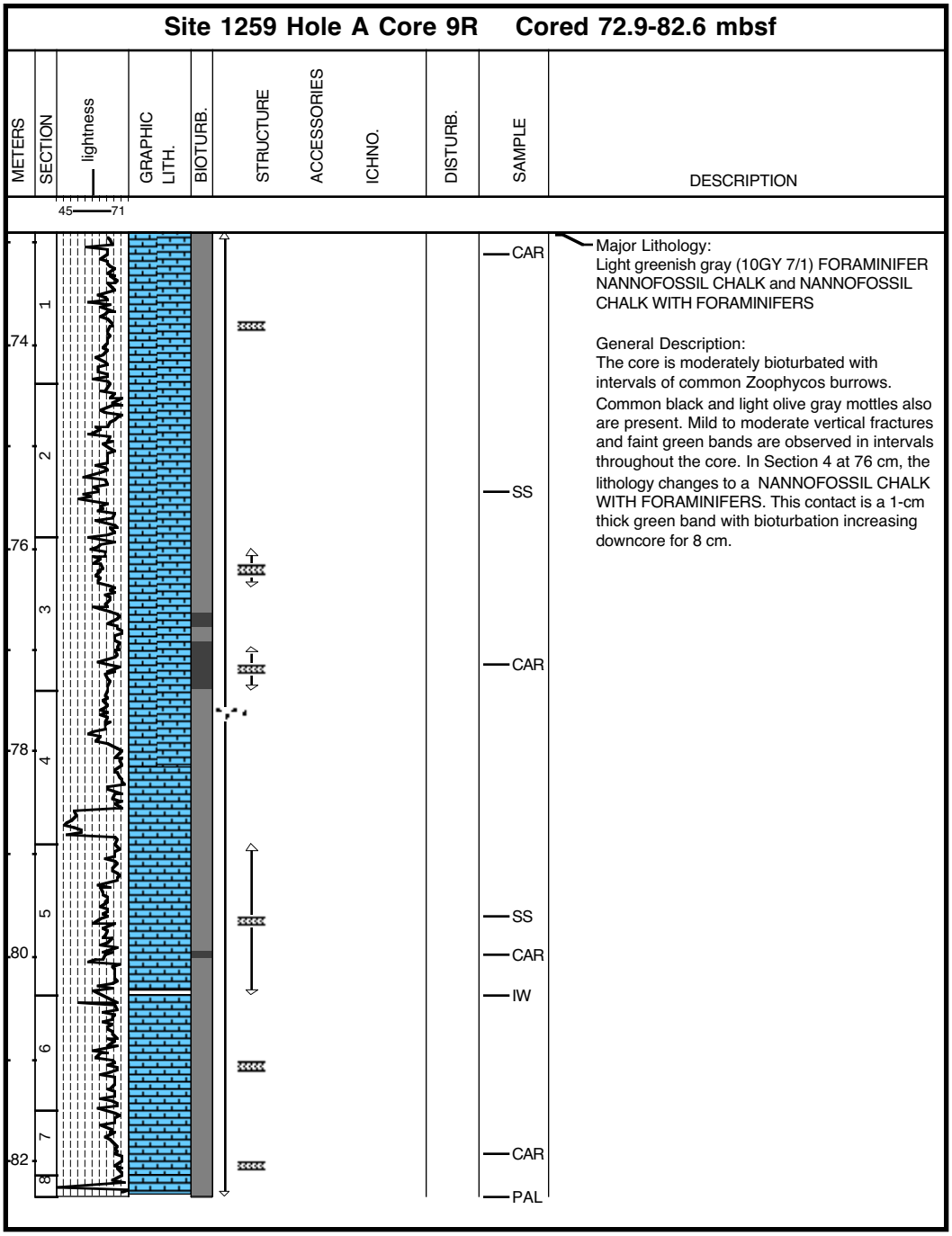
Core Photo


Site 1259 Hole A Core 7R Cored 54.6-63.8 mbsf
METERS
SECTION
lightness
41
74
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
56
58
60
62
1
2
3
4
5
6
CAR
CAR
IW
CAR
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to greenish gray (5G 6/1, 10Y 6/1) FORAMINIFER NANNOFOSSIL CHALK (CALCAREOUS SAND)
General Description:
Mild fracturing is present throughout the core. A cyclical pattern is evident throughout entire core in which the light greenish gray (5GY 7/1) transitions to 20 cm of greenish gray (5G 6/1) followed by greenish gray (10Y 6/1) that contains common brown mottles. Several 1-cm thick purple streaks and green bands are found throughout the entire core. Section 1 contains distinct Zoophycos burrows and an erosional unconformity at 128 cm.

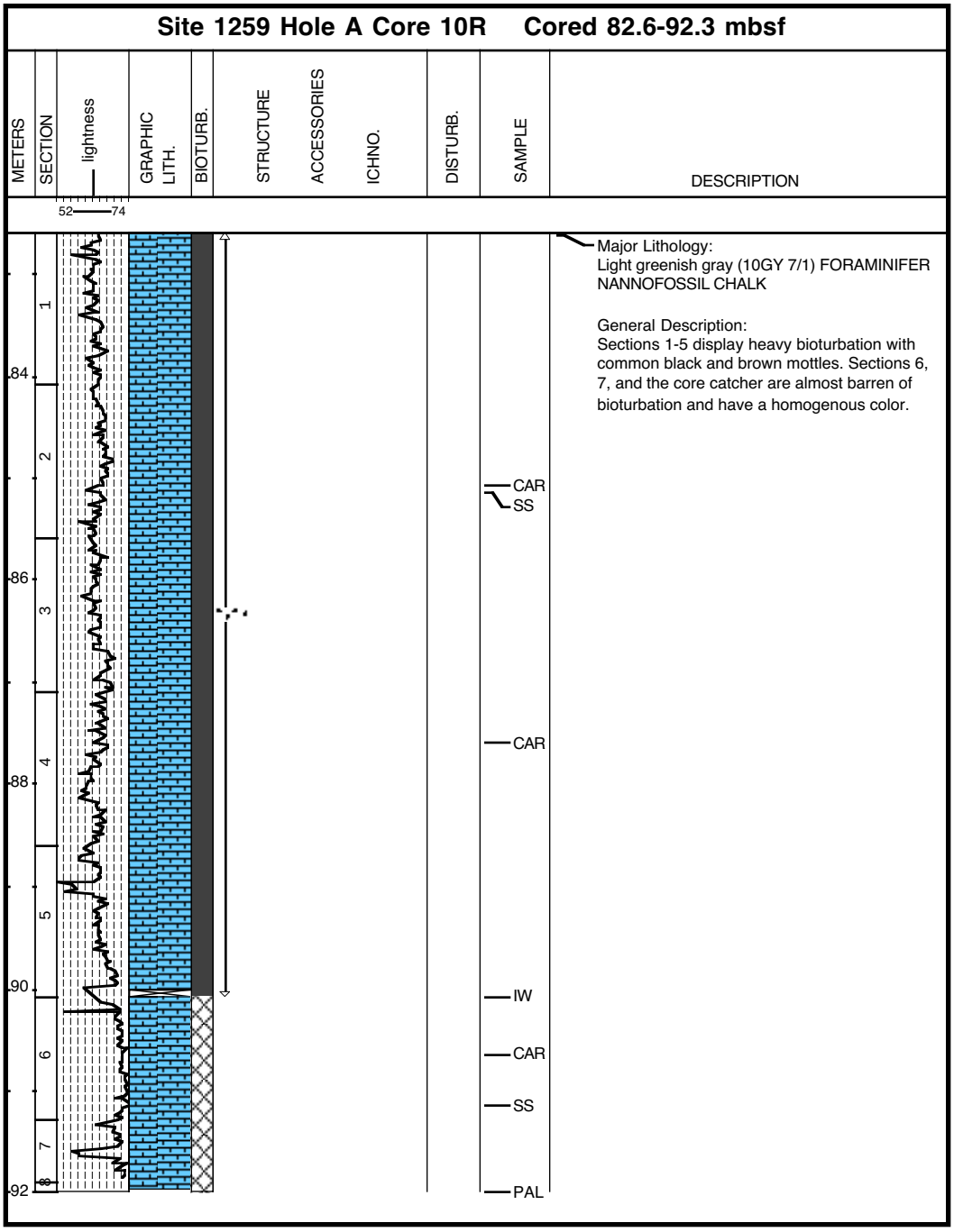
Core Photo


Site 1259 Hole A Core 8R Cored 63.8-72.9 mbsf
METERS
SECTION
lightness
47
74
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
64
66
68
70
72
1
2
3
4
5
6
7
CAR
SS
SS
XRD
CAR
IW
CAR
PAL
Major Lithology:
Light greenish gray (10GY 7/1, 10GY 8/1) to greenish gray (5G 6/1) FORAMINIFER NANNOFOSSIL CHALK (CALCAREOUS SAND)
Minor Lithology:
Greenish gray (10Y 6/1) CLAY WITH BIOGENIC CARBONATE
General Description:
Mild fractures and biscuits are present throughout core. A cyclical pattern is evident throughout entire core in which the light greenish gray (10GY 7/1) transitions to 20 cm of greenish gray (5G 6/1) CLAY WITH BIOGENIC CARBONATE followed by greenish gray (10Y 6/1) that contains common brown mottles. Several 1-cm thick purple streaks and green bands are found throughout the entire core. The green bands are within the CLAY WITH BIOGENIC CARBONATE. Moderate bioturbation with black and brown mottles. Section 4 alternates between an ooze and chalk texture, the section is much more homogenous with vague banding. This section may be completely disturbed.

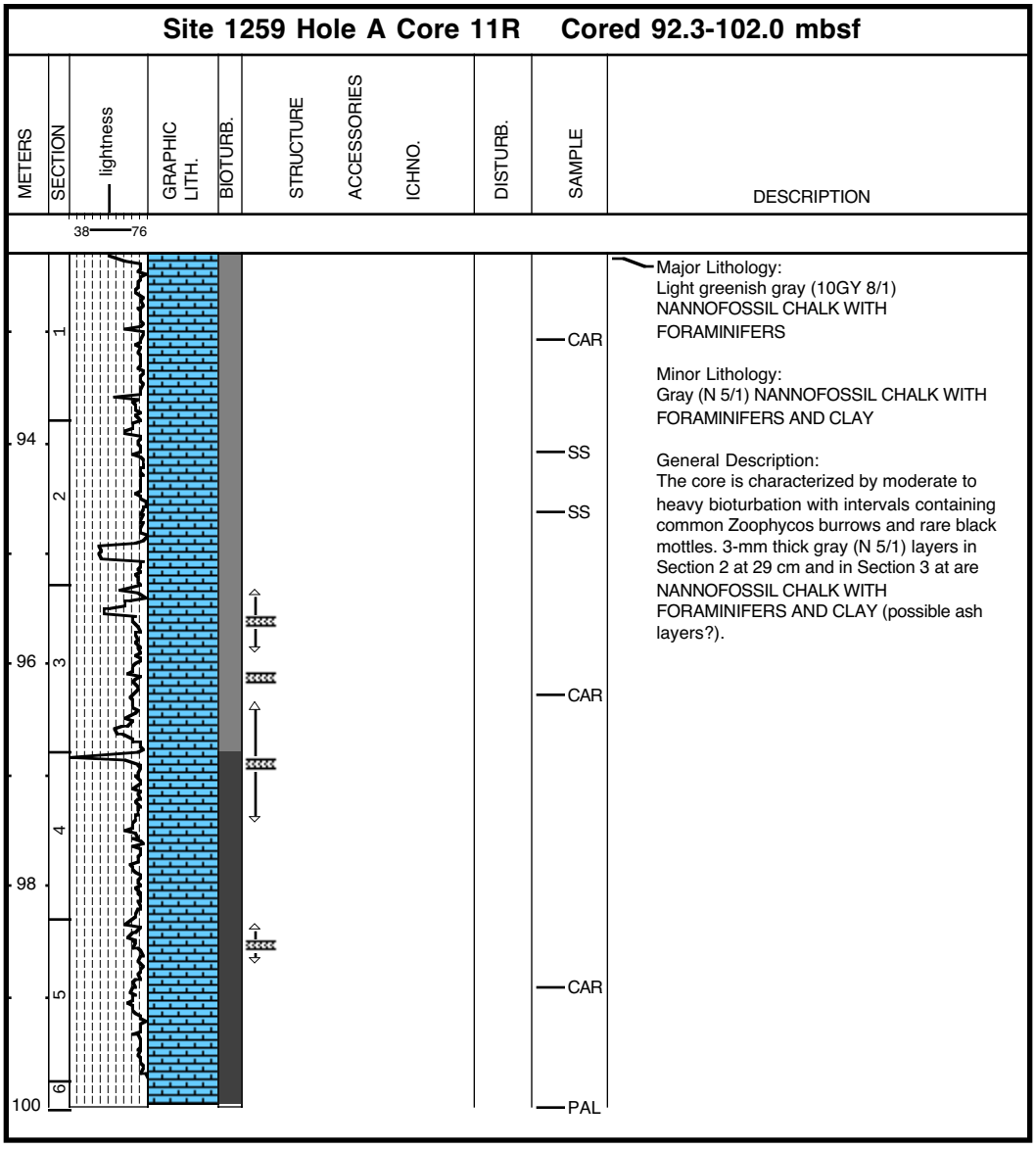
Core Photo


Site 1259 Hole A Core 9R Cored 72.9-82.6 mbsf
METERS
SECTION
lightness
45
71
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
74
76
78
80
82
1
2
3
4
5
6
7
CAR
SS
CAR
SS
CAR
IW
CAR
PAL
Major Lithology:
Light greenish gray (10GY 7/1) FORAMINIFER NANNOFOSSIL CHALK and NANNOFOSSIL CHALK WITH FORAMINIFERS
General Description:
The core is moderately bioturbated with intervals of common Zoophycos burrows. Common black and light olive gray mottles also are present. Mild to moderate vertical fractures and faint green bands are observed in intervals throughout the core. In Section 4 at 76 cm, the lithology changes to a NANNOFOSSIL CHALK WITH FORAMINIFERS. This contact is a 1-cm thick green band with bioturbation increasing downcore for 8 cm.

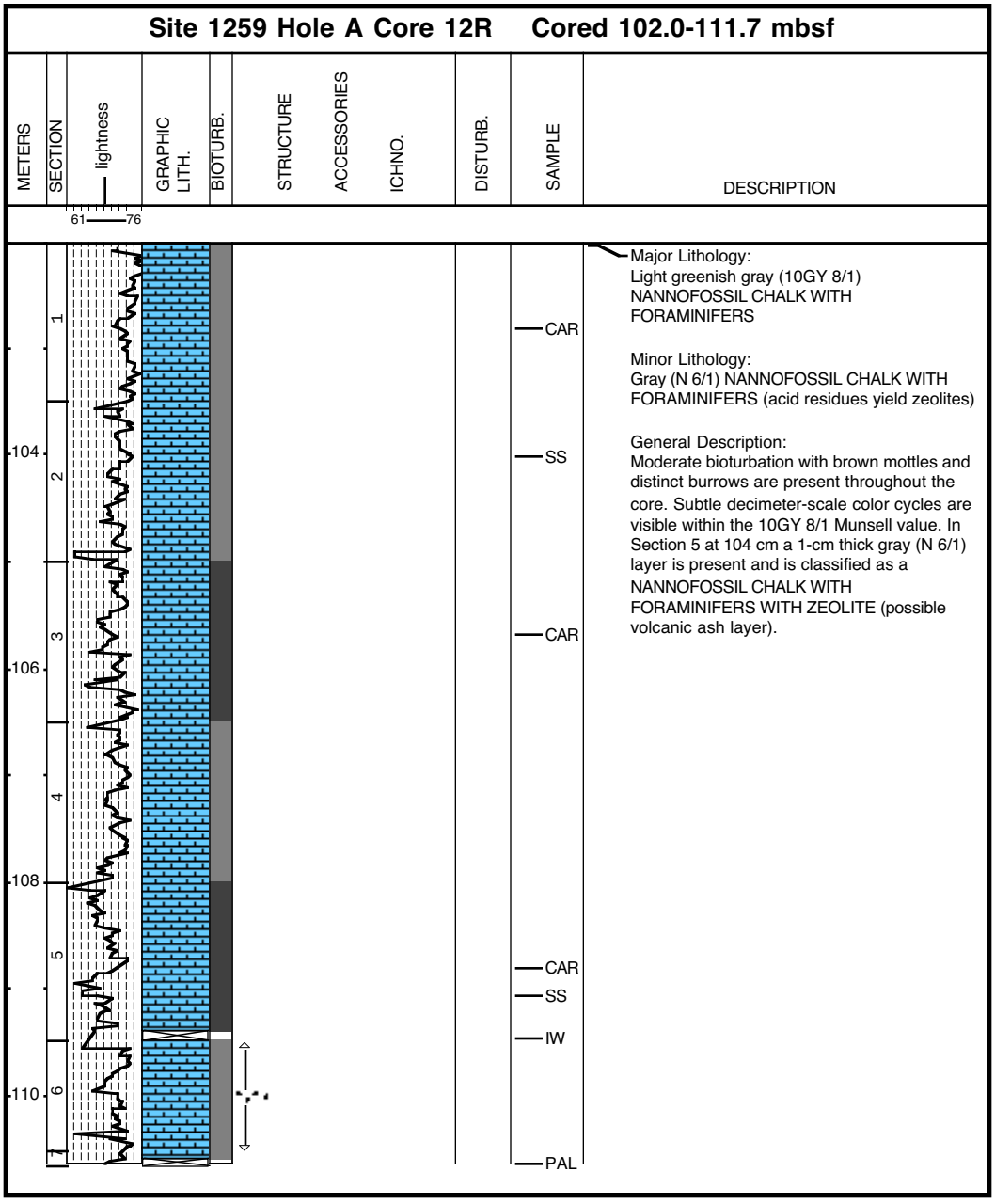
Core Photo


Site 1259 Hole A Core 10R Cored 82.6-92.3 mbsf
METERS
SECTION
lightness
52
74
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
84
86
88
90
92
1
2
3
4
5
6
7
CAR
SS
CAR
IW
CAR
SS
PAL
Major Lithology:
Light greenish gray (10GY 7/1) FORAMINIFER NANNOFOSSIL CHALK
General Description:
Sections 1-5 display heavy bioturbation with common black and brown mottles. Sections 6, 7, and the core catcher are almost barren of bioturbation and have a homogenous color.

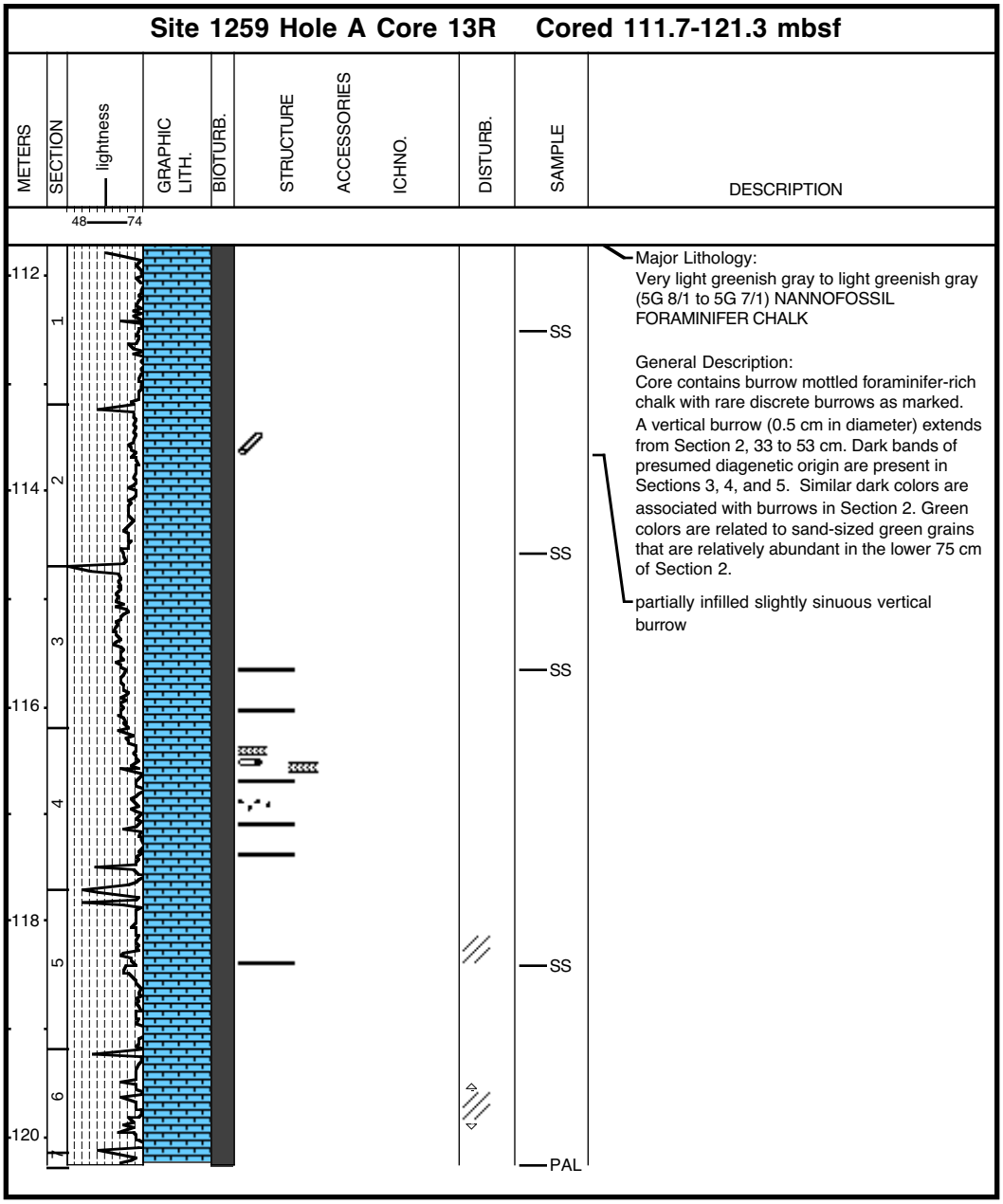
Core Photo


Site 1259 Hole A Core 11R Cored 92.3-102.0 mbsf
METERS
SECTION
lightness
38
76
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
94
96
98
100
1
2
3
4
5
6
CAR
SS
SS
CAR
CAR
PAL
Major Lithology:
Light greenish gray (10GY 8/1) NANNOFOSSIL CHALK WITH FORAMINIFERS
Minor Lithology:
Gray (N 5/1) NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY
General Description:
The core is characterized by moderate to heavy bioturbation with intervals containing common Zoophycos burrows and rare black mottles. 3-mm thick gray (N 5/1) layers in Section 2 at 29 cm and in Section 3 at are NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY (possible ash layers?).

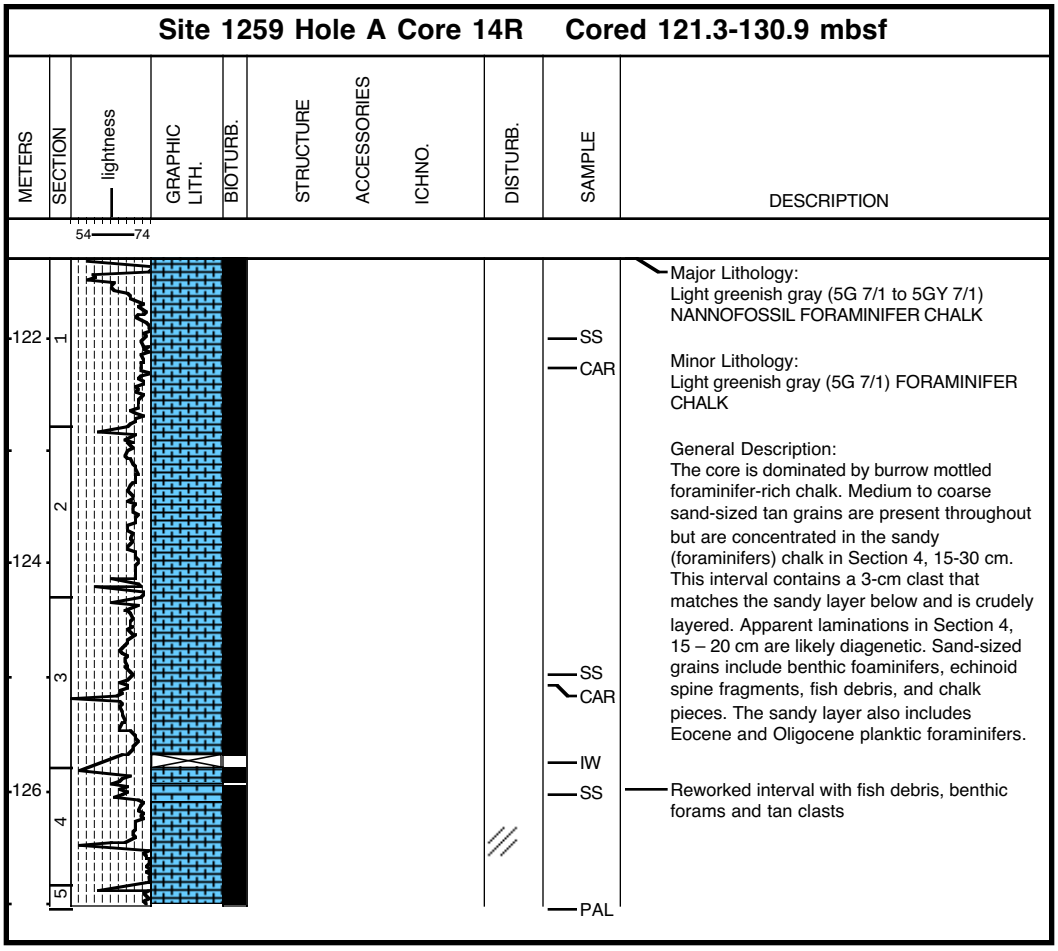
Core Photo


Site 1259 Hole A Core 12R Cored 102.0-111.7 mbsf
METERS
SECTION
lightness
61
76
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
104
106
108
110
1
2
3
4
5
6
7
CAR
SS
CAR
CAR
SS
IW
PAL
Major Lithology:
Light greenish gray (10GY 8/1) NANNOFOSSIL CHALK WITH FORAMINIFERS
Minor Lithology:
Gray (N 6/1) NANNOFOSSIL CHALK WITH FORAMINIFERS (acid residues yield zeolites)
General Description:
Moderate bioturbation with brown mottles and distinct burrows are present throughout the core. Subtle decimeter-scale color cycles are visible within the 10GY 8/1 Munsell value. In Section 5 at 104 cm a 1-cm thick gray (N 6/1) layer is present and is classified as a NANNOFOSSIL CHALK WITH FORAMINIFERS WITH ZEOLITE (possible volcanic ash layer).

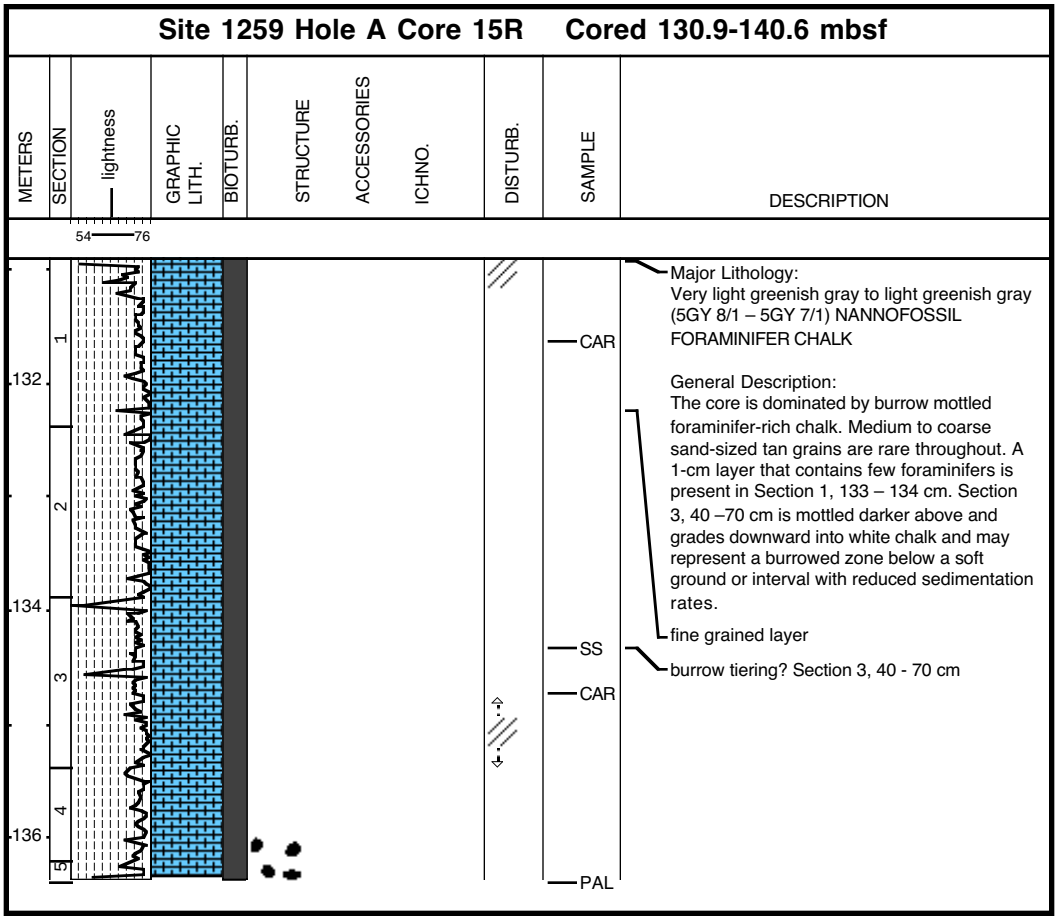
Core Photo


Site 1259 Hole A Core 13R Cored 111.7-121.3 mbsf
METERS
SECTION
lightness
48
74
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
112
114
116
118
120
1
2
3
4
5
6
7
SS
SS
SS
SS
PAL
Major Lithology:
Very light greenish gray to light greenish gray (5G 8/1 to 5G 7/1) NANNOFOSSIL FORAMINIFER CHALK
General Description:
Core contains burrow mottled foraminifer-rich chalk with rare discrete burrows as marked. A vertical burrow (0.5 cm in diameter) extends from Section 2, 33 to 53 cm. Dark bands of presumed diagenetic origin are present in Sections 3, 4, and 5. Similar dark colors are associated with burrows in Section 2. Green colors are related to sand-sized green grains that are relatively abundant in the lower 75 cm of Section 2.
partially infilled slightly sinuous vertical burrow

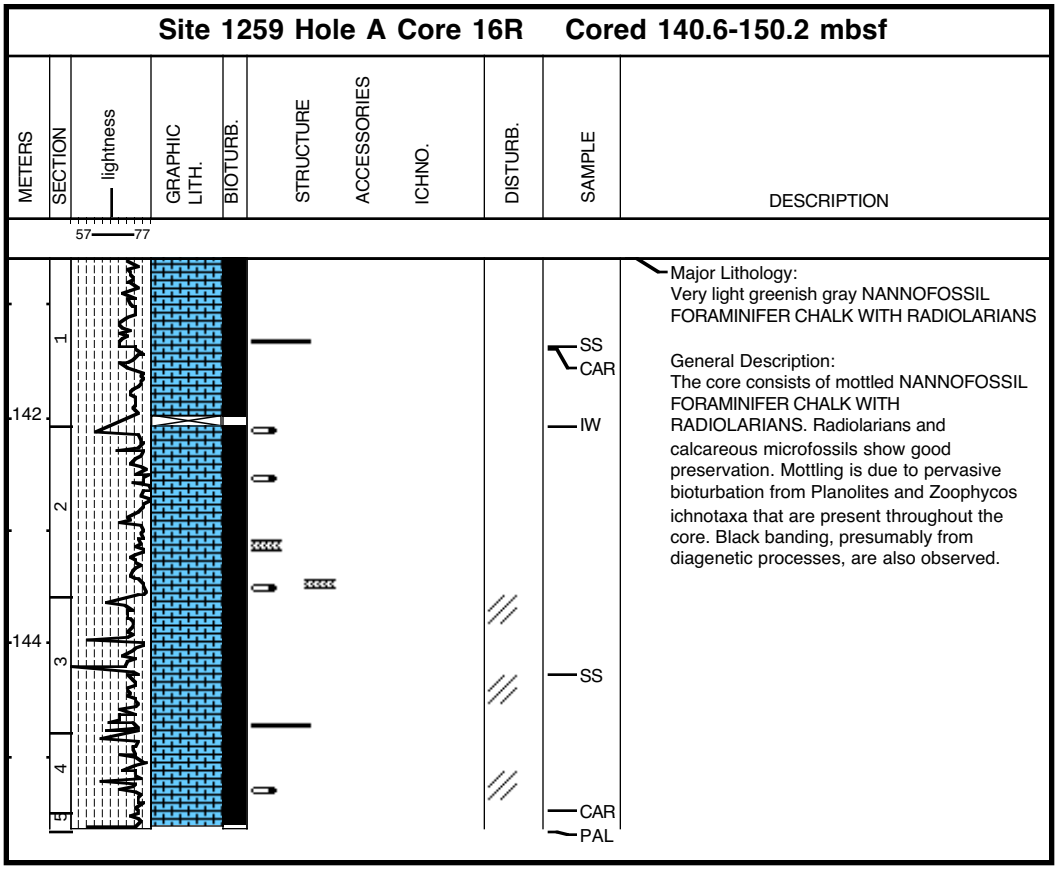
Core Photo


Site 1259 Hole A Core 14R Cored 121.3-130.9 mbsf
METERS
SECTION
lightness
54
74
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
122
124
126
1
2
3
4
5
SS
CAR
SS
CAR
IW
SS
PAL
Major Lithology:
Light greenish gray (5G 7/1 to 5GY 7/1) NANNOFOSSIL FORAMINIFER CHALK
Minor Lithology:
Light greenish gray (5G 7/1) FORAMINIFER CHALK
General Description:
The core is dominated by burrow mottled foraminifer-rich chalk. Medium to coarse sand-sized tan grains are present throughout but are concentrated in the sandy (foraminifers) chalk in Section 4, 15-30 cm. This interval contains a 3-cm clast that matches the sandy layer below and is crudely layered. Apparent laminations in Section 4, 15 – 20 cm are likely diagenetic. Sand-sized grains include benthic foaminifers, echinoid spine fragments, fish debris, and chalk pieces. The sandy layer also includes Eocene and Oligocene planktic foraminifers.
Reworked interval with fish debris, benthic forams and tan clasts

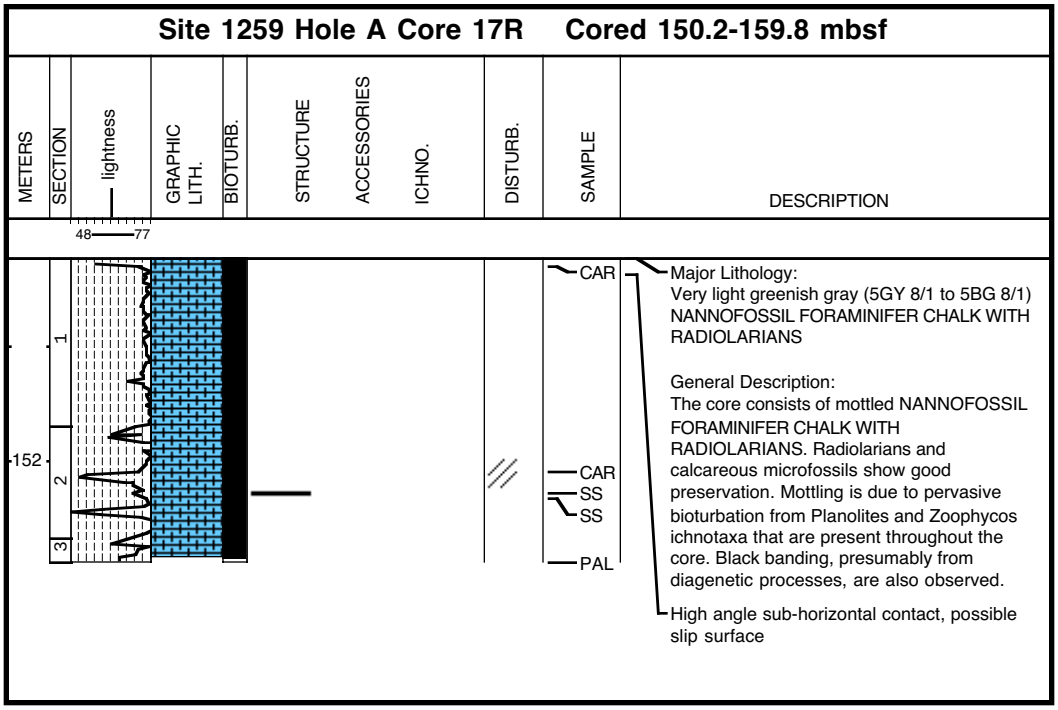
Core Photo


Site 1259 Hole A Core 15R Cored 130.9-140.6 mbsf
METERS
SECTION
lightness
54
76
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
132
134
136
1
2
3
4
5
CAR
SS
CAR
PAL
Major Lithology:
Very light greenish gray to light greenish gray (5GY 8/1 – 5GY 7/1) NANNOFOSSIL FORAMINIFER CHALK
General Description:
The core is dominated by burrow mottled foraminifer-rich chalk. Medium to coarse sand-sized tan grains are rare throughout. A 1-cm layer that contains few foraminifers is present in Section 1, 133 – 134 cm. Section 3, 40 –70 cm is mottled darker above and grades downward into white chalk and may represent a burrowed zone below a soft ground or interval with reduced sedimentation rates.
fine grained layer
burrow tiering? Section 3, 40 - 70 cm

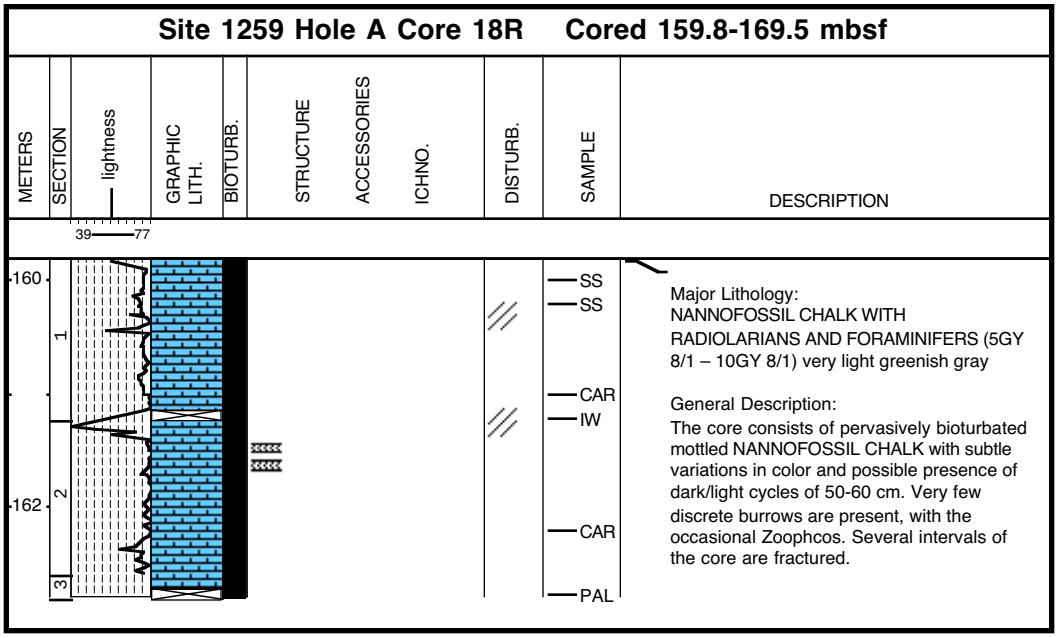
Core Photo


Site 1259 Hole A Core 16R Cored 140.6-150.2 mbsf
METERS
SECTION
lightness
57
77
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
142
144
1
2
3
4
5
SS
CAR
IW
SS
CAR
PAL
Major Lithology:
Very light greenish gray NANNOFOSSIL FORAMINIFER CHALK WITH RADIOLARIANS
General Description:
The core consists of mottled NANNOFOSSIL FORAMINIFER CHALK WITH RADIOLARIANS. Radiolarians and calcareous microfossils show good preservation. Mottling is due to pervasive bioturbation from Planolites and Zoophycos ichnotaxa that are present throughout the core. Black banding, presumably from diagenetic processes, are also observed.

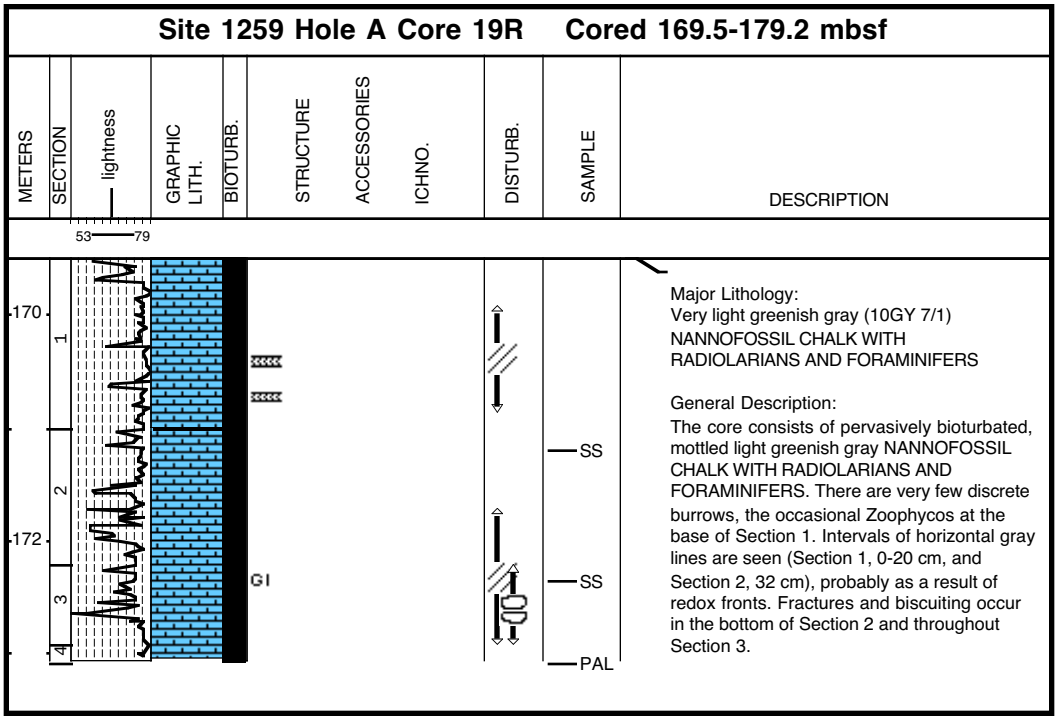
Core Photo


Site 1259 Hole A Core 17R Cored 150.2-159.8 mbsf
METERS
SECTION
lightness
48
77
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
152
1
2
3
CAR
CAR
SS
SS
PAL
Major Lithology:
Very light greenish gray (5GY 8/1 to 5BG 8/1) NANNOFOSSIL FORAMINIFER CHALK WITH RADIOLARIANS
General Description:
The core consists of mottled NANNOFOSSIL FORAMINIFER CHALK WITH RADIOLARIANS. Radiolarians and calcareous microfossils show good preservation. Mottling is due to pervasive bioturbation from Planolites and Zoophycos ichnotaxa that are present throughout the core. Black banding, presumably from diagenetic processes, are also observed.
High angle sub-horizontal contact, possible slip surface

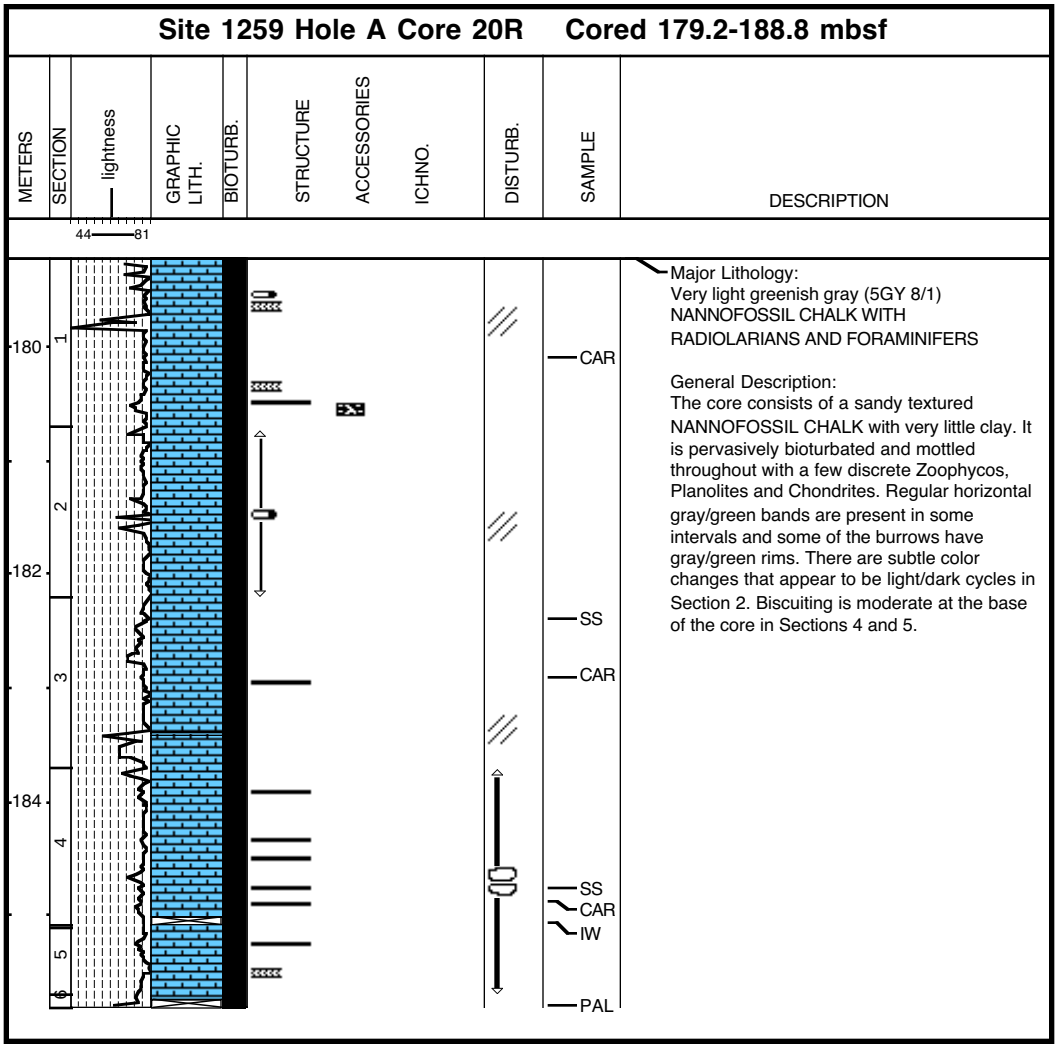
Core Photo


Site 1259 Hole A Core 18R Cored 159.8-169.5 mbsf
METERS
SECTION
lightness
39
77
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
160
162
1
2
3
SS
SS
CAR
IW
CAR
PAL
Major Lithology:
NANNOFOSSIL CHALK WITH RADIOLARIANS AND FORAMINIFERS (5GY 8/1 – 10GY 8/1) very light greenish gray
General Description:
The core consists of pervasively bioturbated mottled NANNOFOSSIL CHALK with subtle variations in color and possible presence of dark/light cycles of 50-60 cm. Very few discrete burrows are present, with the occasional Zoophcos. Several intervals of the core are fractured.

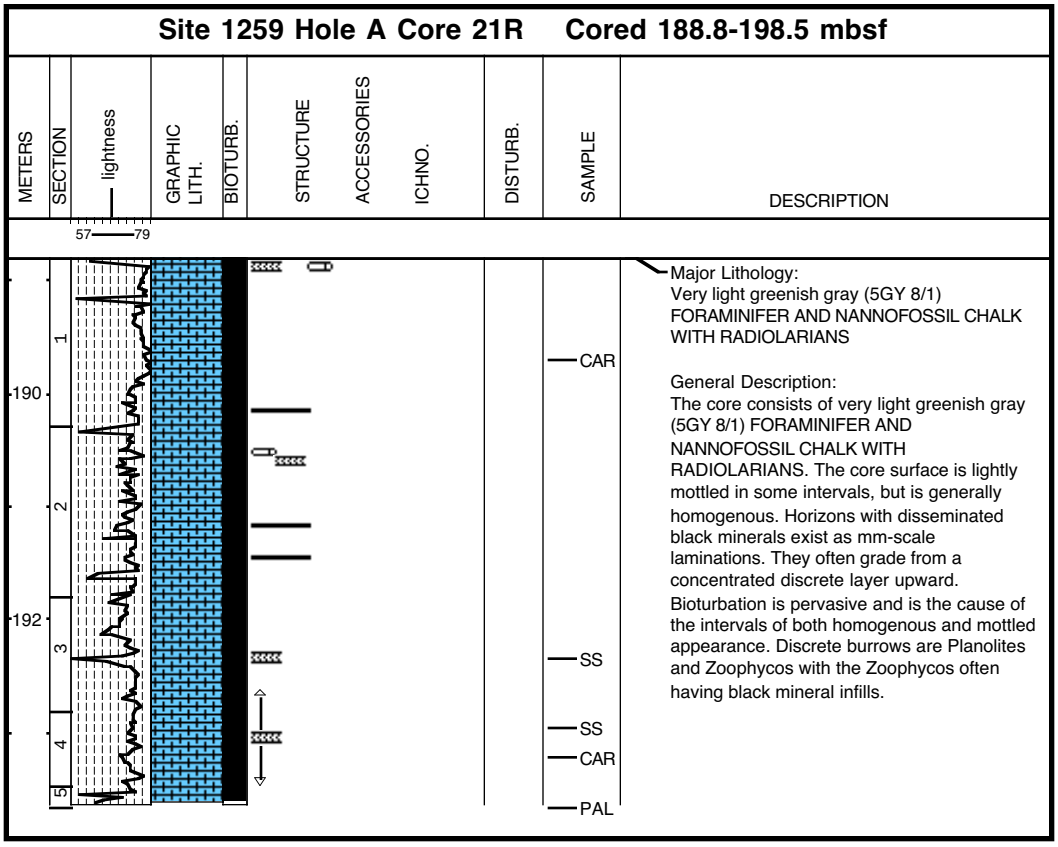
Core Photo


Site 1259 Hole A Core 19R Cored 169.5-179.2 mbsf
METERS
SECTION
lightness
53
79
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
170
172
1
2
3
4
GI
SS
SS
PAL
Major Lithology:
Very light greenish gray (10GY 7/1)
NANNOFOSSIL CHALK WITH
RADIOLARIANS AND FORAMINIFERS
General Description:
The core consists of pervasively bioturbated, mottled light greenish gray NANNOFOSSIL CHALK WITH RADIOLARIANS AND FORAMINIFERS. There are very few discrete burrows, the occasional Zoophycos at the base of Section 1. Intervals of horizontal gray lines are seen (Section 1, 0-20 cm, and Section 2, 32 cm), probably as a result of redox fronts. Fractures and biscuiting occur in the bottom of Section 2 and throughout Section 3.

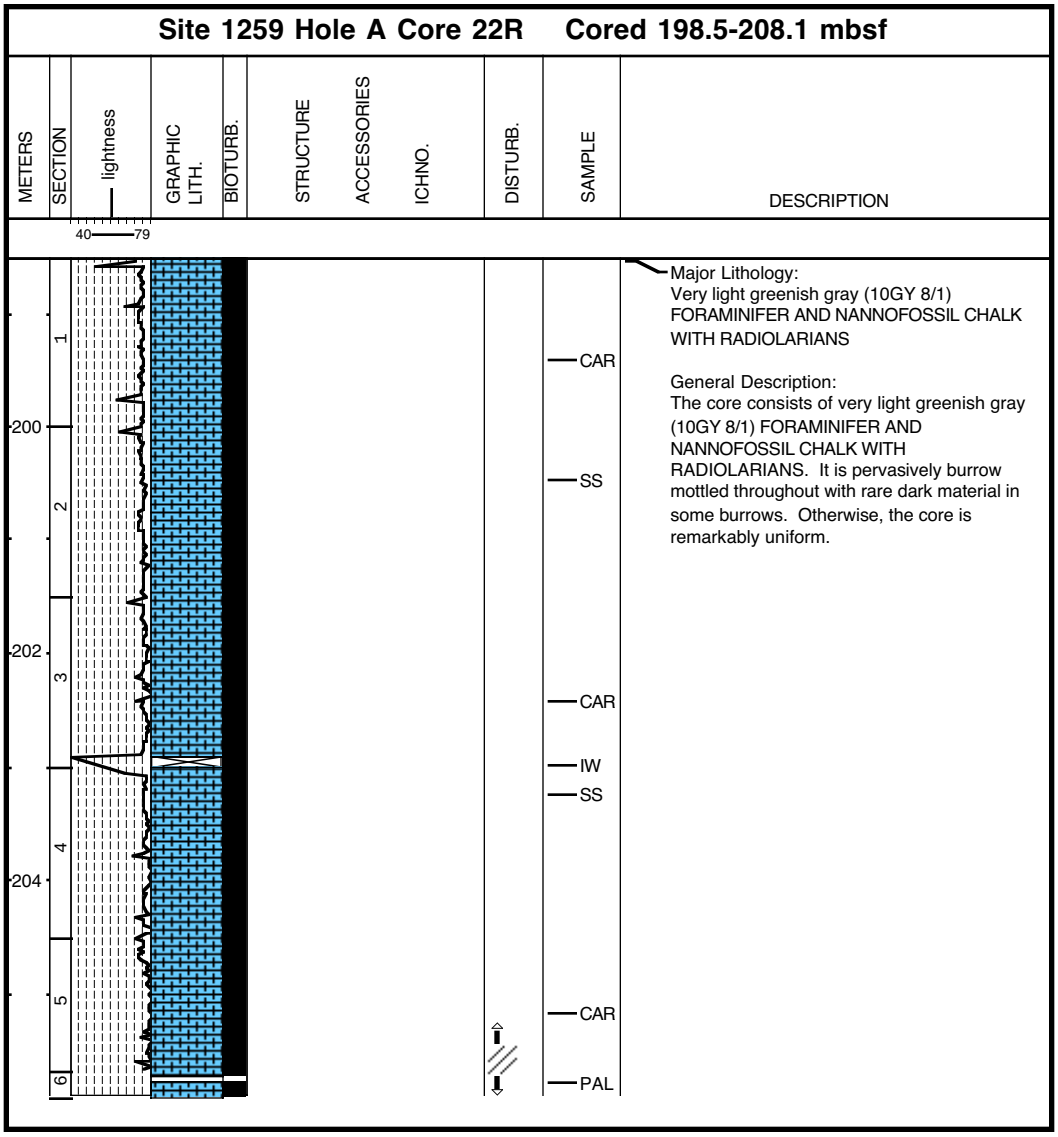
Core Photo


Site 1259 Hole A Core 20R Cored 179.2-188.8 mbsf
METERS
SECTION
lightness
44
81
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
180
182
184
1
2
3
4
5
6
CAR
SS
CAR
SS
CAR
IW
PAL
Major Lithology:
Very light greenish gray (5GY 8/1)
NANNOFOSSIL CHALK WITH
RADIOLARIANS AND FORAMINIFERS
General Description:
The core consists of a sandy textured NANNOFOSSIL CHALK with very little clay. It is pervasively bioturbated and mottled throughout with a few discrete Zoophycos, Planolites and Chondrites. Regular horizontal gray/green bands are present in some intervals and some of the burrows have gray/green rims. There are subtle color changes that appear to be light/dark cycles in Section 2. Biscuiting is moderate at the base of the core in Sections 4 and 5.

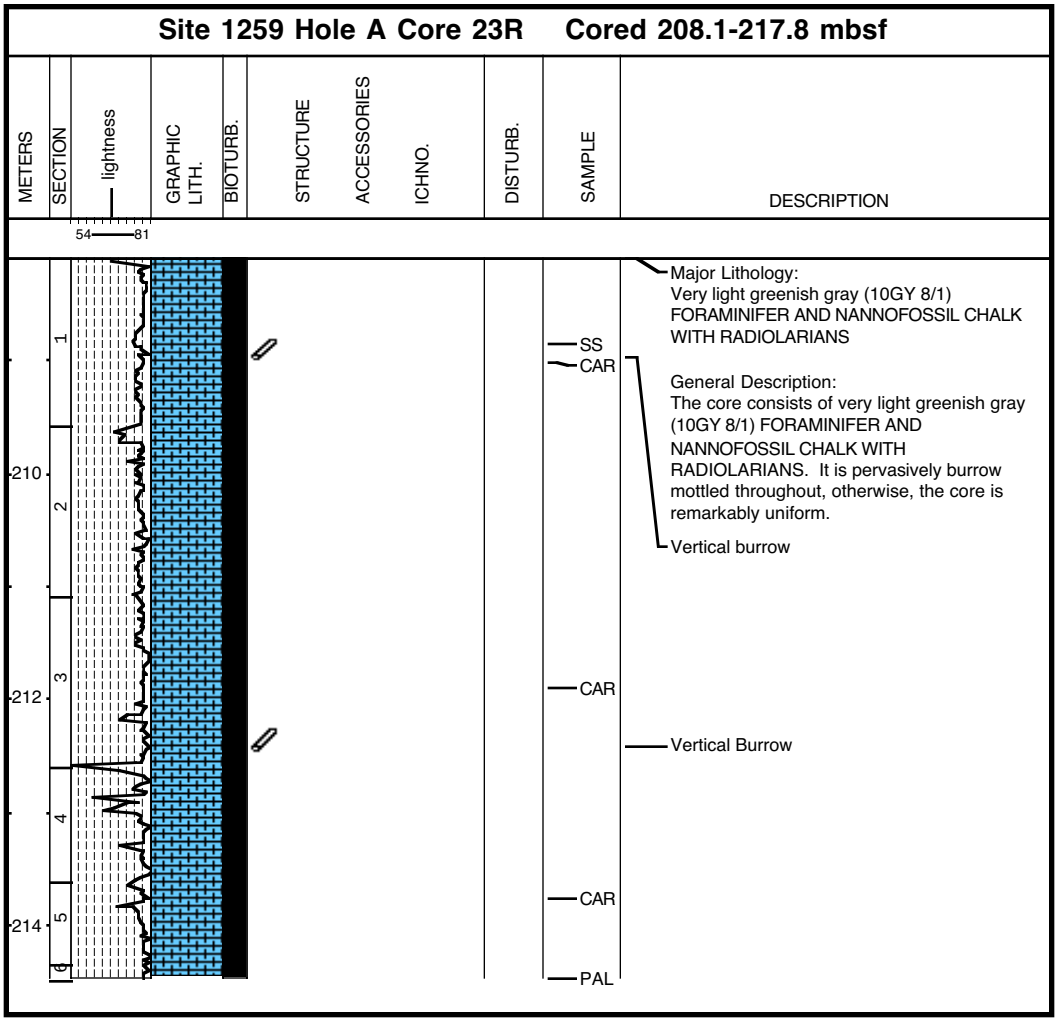
Core Photo


Site 1259 Hole A Core 21R Cored 188.8-198.5 mbsf
METERS
SECTION
lightness
57
79
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
190
192
1
2
3
4
5
CAR
SS
SS
CAR
PAL
Major Lithology:
Very light greenish gray (5GY 8/1) FORAMINIFER AND NANNOFOSSIL CHALK WITH RADIOLARIANS
General Description:
The core consists of very light greenish gray (5GY 8/1) FORAMINIFER AND NANNOFOSSIL CHALK WITH RADIOLARIANS. The core surface is lightly mottled in some intervals, but is generally homogenous. Horizons with disseminated black minerals exist as mm-scale laminations. They often grade from a concentrated discrete layer upward. Bioturbation is pervasive and is the cause of the intervals of both homogenous and mottled appearance. Discrete burrows are Planolites and Zoophycos with the Zoophycos often having black mineral infills.

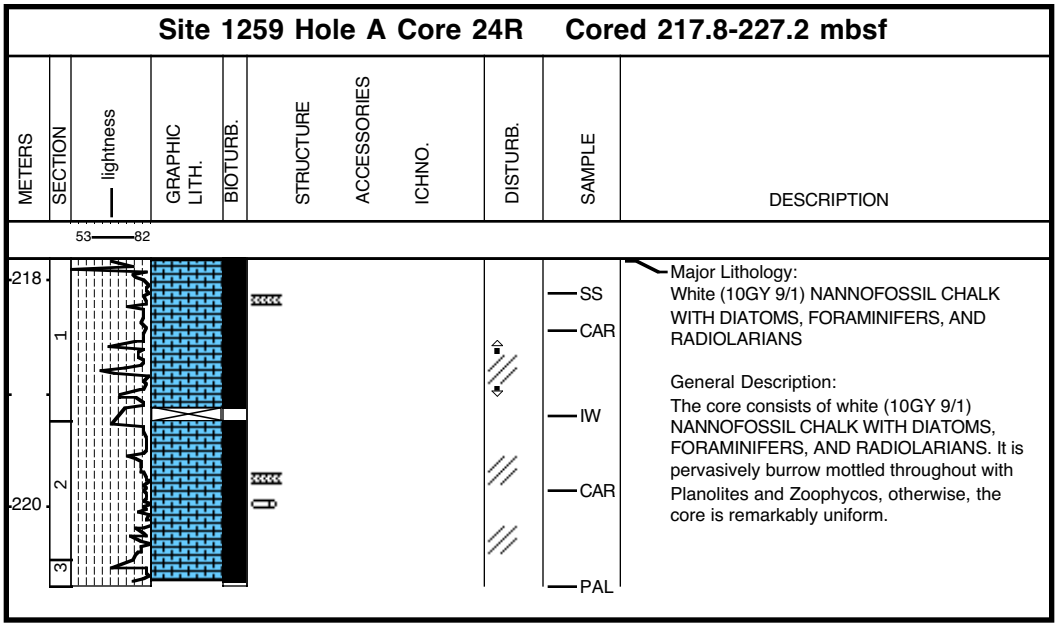
Core Photo


Site 1259 Hole A Core 22R Cored 198.5-208.1 mbsf
METERS
SECTION
lightness
40
79
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
200
202
204
1
2
3
4
5
6
CAR
SS
CAR
IW
SS
CAR
PAL
Major Lithology:
Very light greenish gray (10GY 8/1)
FORAMINIFER AND NANNOFOSSIL CHALK
WITH RADIOLARIANS
General Description:
The core consists of very light greenish gray (10GY 8/1) FORAMINIFER AND NANNOFOSSIL CHALK WITH RADIOLARIANS. It is pervasively burrow mottled throughout with rare dark material in some burrows. Otherwise, the core is remarkably uniform.

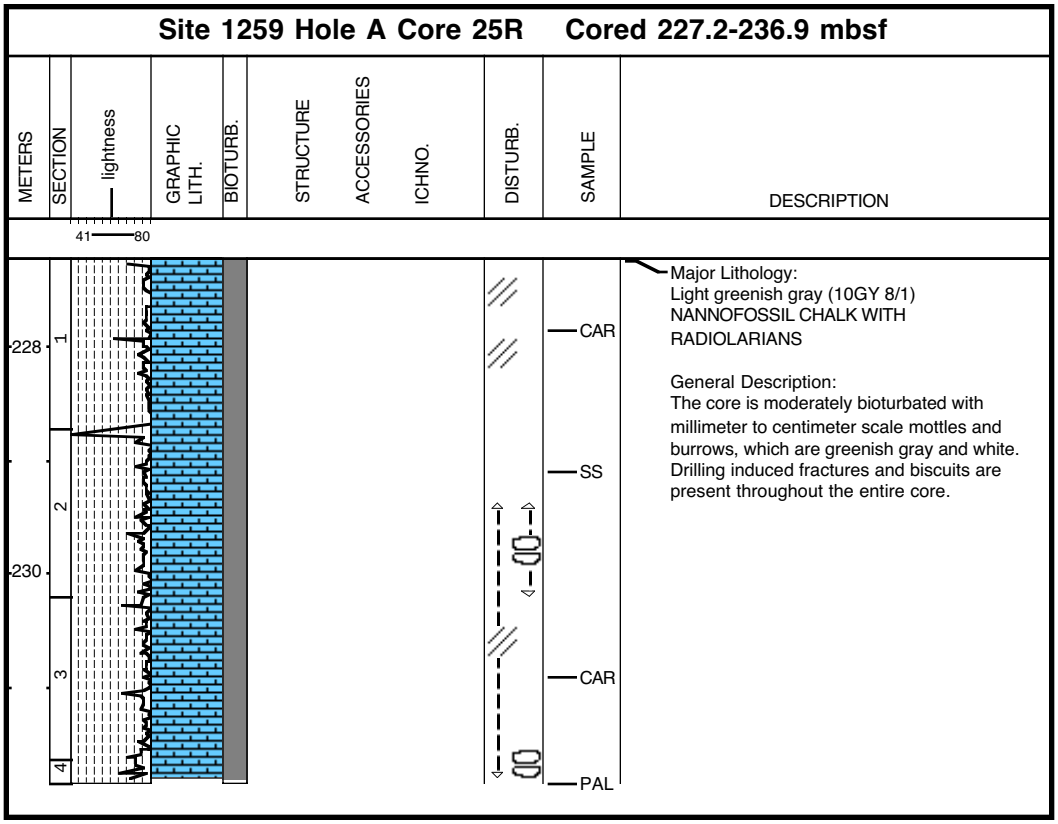
Core Photo


Site 1259 Hole A Core 23R Cored 208.1-217.8 mbsf
METERS
SECTION
lightness
54
81
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
210
212
214
1
2
3
4
5
6
SS
CAR
CAR
CAR
PAL
Major Lithology:
Very light greenish gray (10GY 8/1) FORAMINIFER AND NANNOFOSSIL CHALK WITH RADIOLARIANS
General Description:
The core consists of very light greenish gray (10GY 8/1) FORAMINIFER AND NANNOFOSSIL CHALK WITH RADIOLARIANS. It is pervasively burrow mottled throughout, otherwise, the core is remarkably uniform.
Vertical burrow
Vertical Burrow

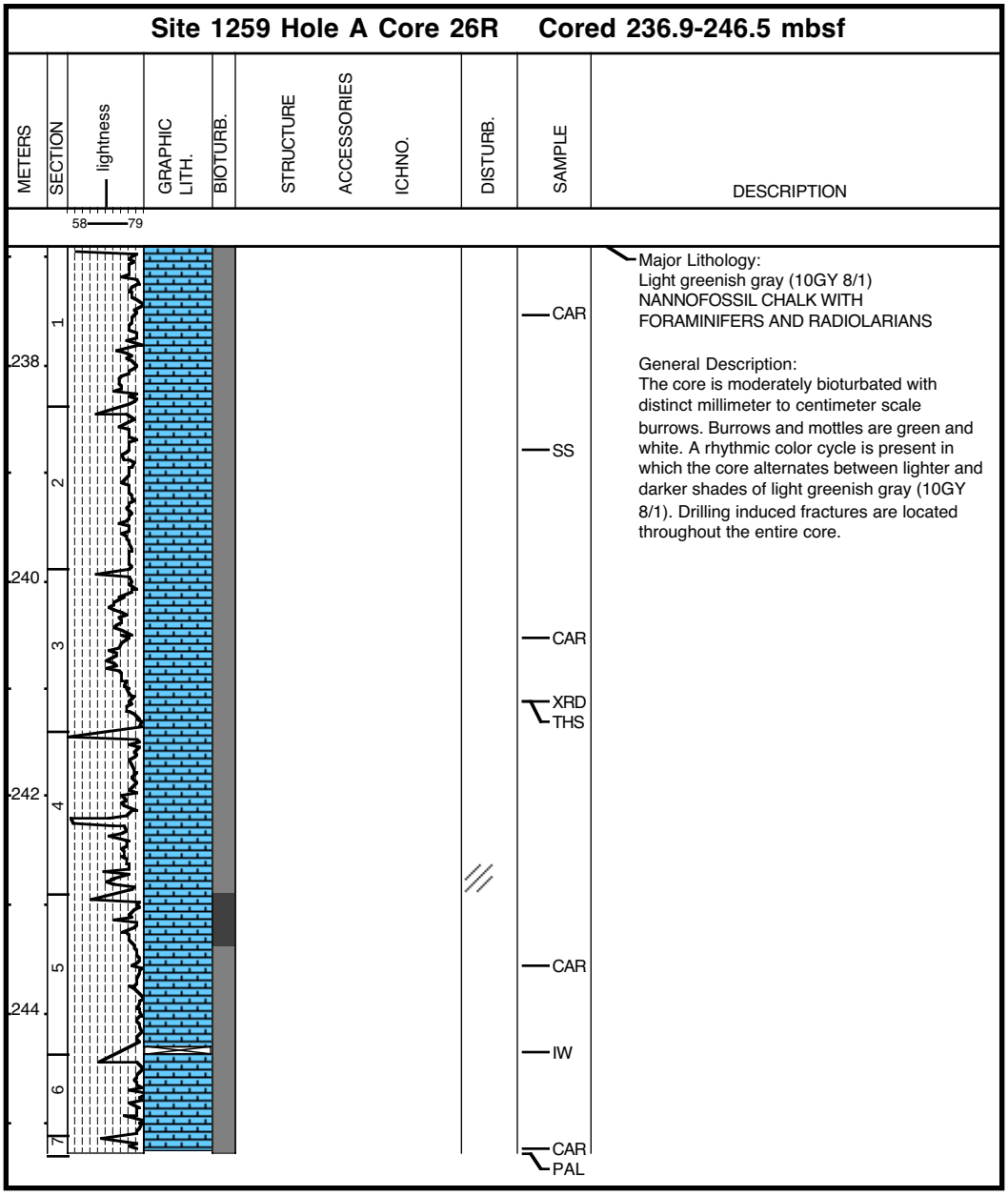
Core Photo


Site 1259 Hole A Core 24R Cored 217.8-227.2 mbsf
METERS
SECTION
lightness
53
82
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
218
220
1
2
3
SS
CAR
IW
CAR
PAL
Major Lithology:
White (10GY 9/1) NANNOFOSSIL CHALK WITH DIATOMS, FORAMINIFERS, AND RADIOLARIANS
General Description:
The core consists of white (10GY 9/1) NANNOFOSSIL CHALK WITH DIATOMS, FORAMINIFERS, AND RADIOLARIANS. It is pervasively burrow mottled throughout with Planolites and Zoophycos, otherwise, the core is remarkably uniform.

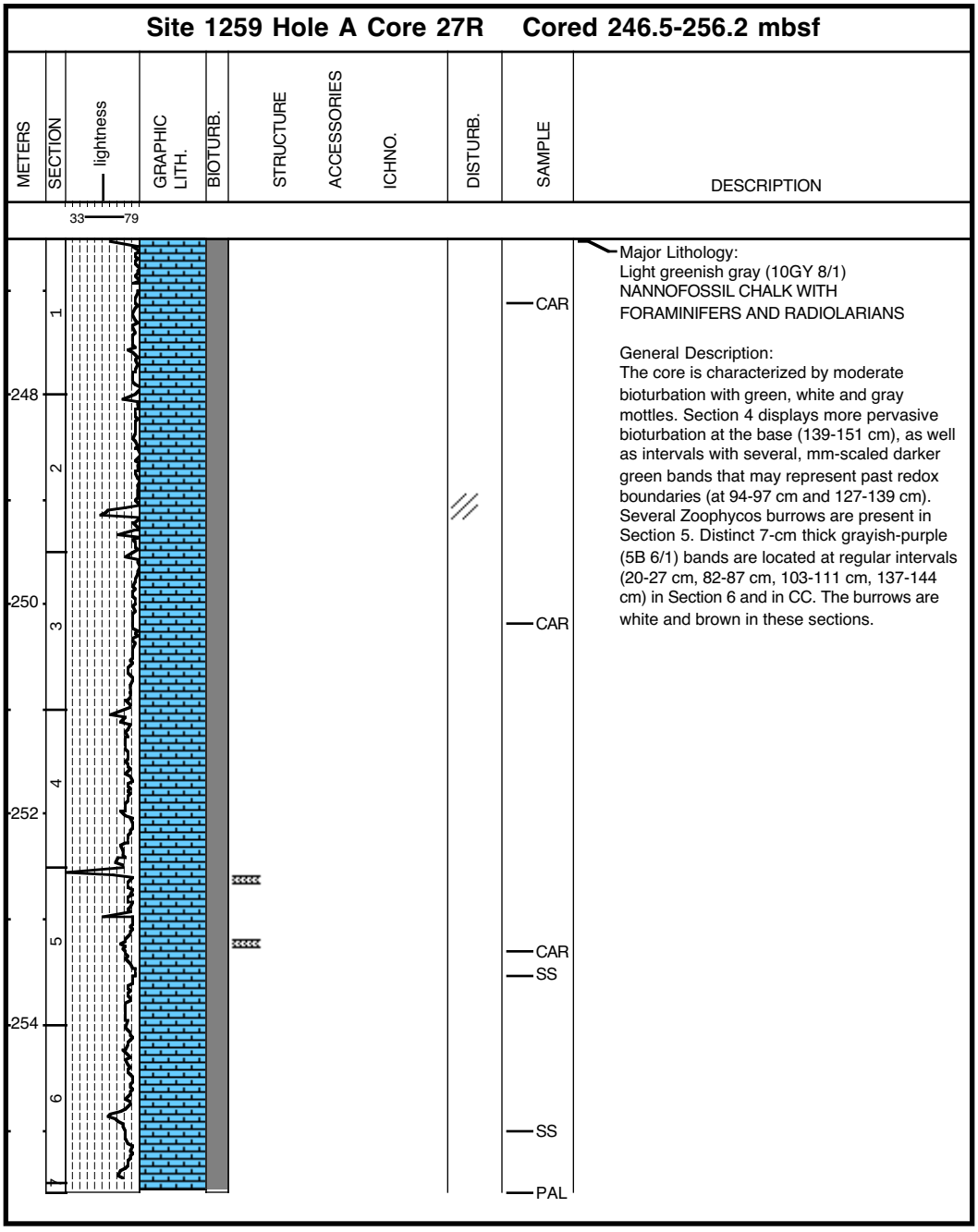
Core Photo


Site 1259 Hole A Core 25R Cored 227.2-236.9 mbsf
METERS
SECTION
lightness
41
80
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
228
230
1
2
3
4
CAR
SS
CAR
PAL
Major Lithology:
Light greenish gray (10GY 8/1)
NANNOFOSSIL CHALK WITH
RADIOLARIANS
General Description:
The core is moderately bioturbated with millimeter to centimeter scale mottles and burrows, which are greenish gray and white. Drilling induced fractures and biscuits are present throughout the entire core.

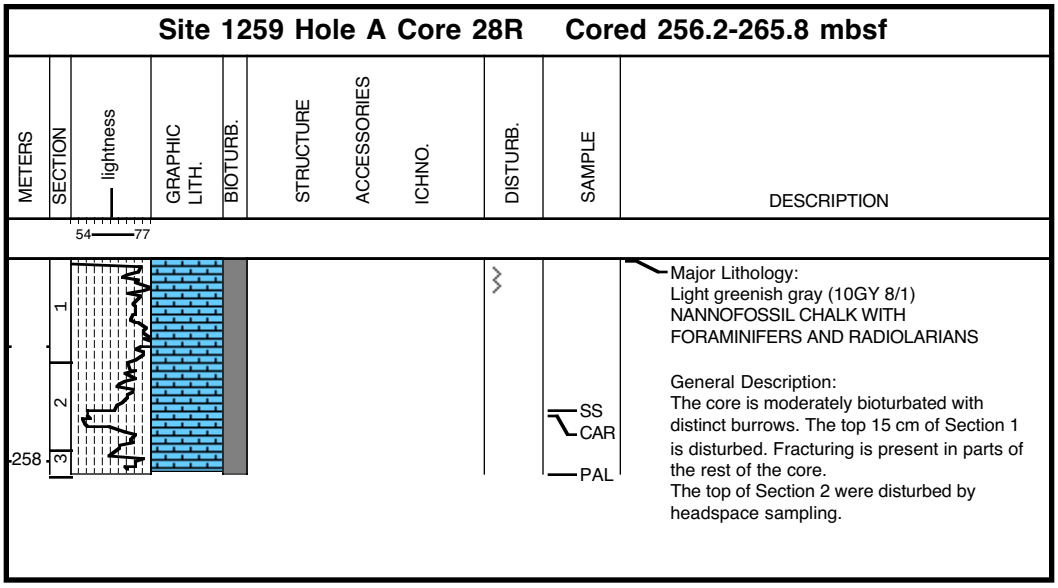
Core Photo


Site 1259 Hole A Core 26R Cored 236.9-246.5 mbsf
METERS
SECTION
lightness
58
79
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
238
240
242
244
1
2
3
4
5
6
7
CAR
SS
CAR
XRD
THS
CAR
IW
CAR
PAL
Major Lithology:
Light greenish gray (10GY 8/1)
NANNOFOSSIL CHALK WITH
FORAMINIFERS AND RADIOLARIANS
General Description:
The core is moderately bioturbated with distinct millimeter to centimeter scale burrows. Burrows and mottles are green and white. A rhythmic color cycle is present in which the core alternates between lighter and darker shades of light greenish gray (10GY 8/1). Drilling induced fractures are located throughout the entire core.

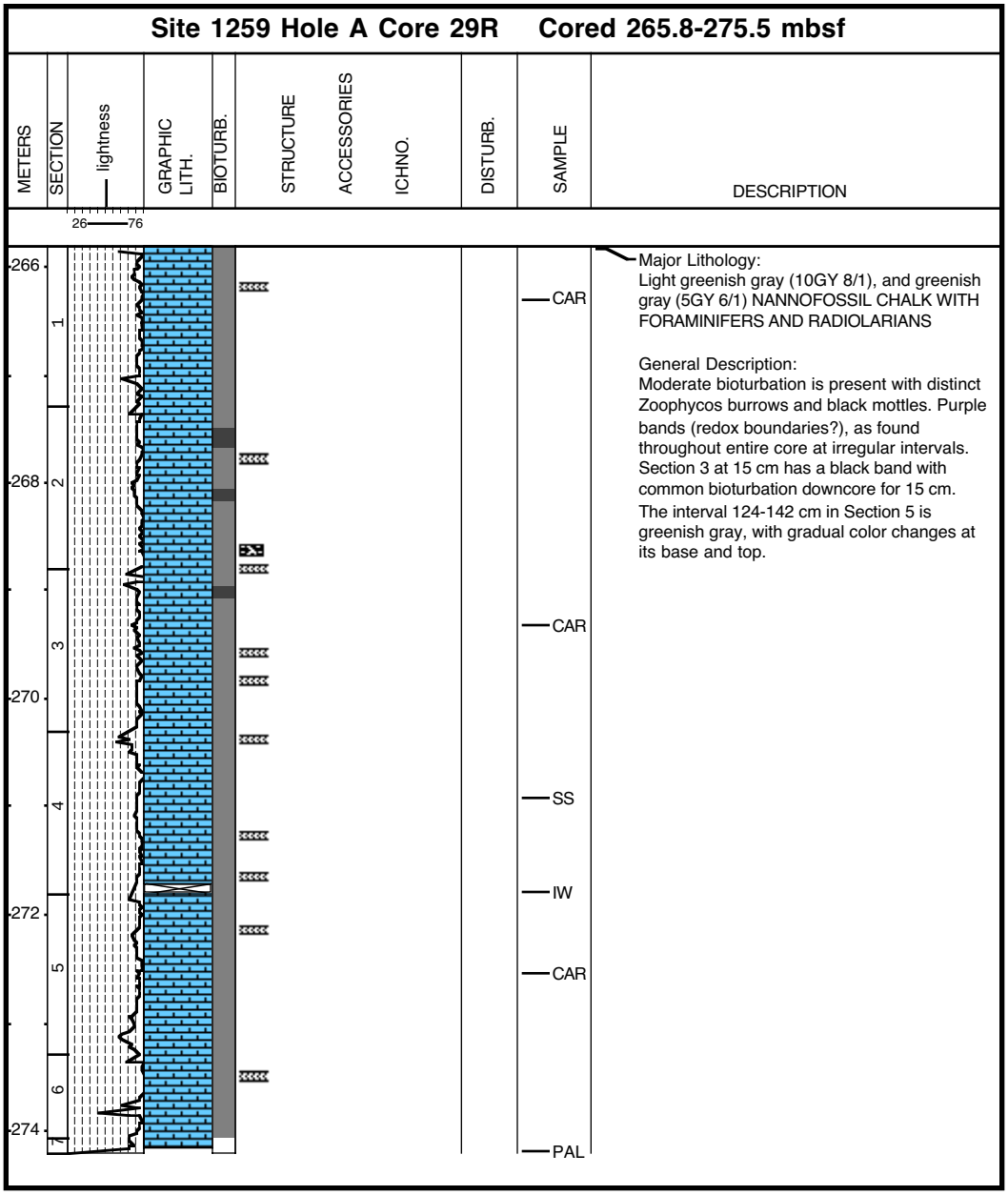
Core Photo


Site 1259 Hole A Core 27R Cored 246.5-256.2 mbsf
METERS
SECTION
lightness
33
79
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
248
250
252
254
1
2
3
4
5
6
CAR
CAR
CAR
SS
SS
PAL
Major Lithology:
Light greenish gray (10GY 8/1)
NANNOFOSSIL CHALK WITH
FORAMINIFERS AND RADIOLARIANS
General Description:
The core is characterized by moderate bioturbation with green, white and gray mottles. Section 4 displays more pervasive bioturbation at the base (139-151 cm), as well as intervals with several, mm-scaled darker green bands that may represent past redox boundaries (at 94-97 cm and 127-139 cm). Several Zoophycos burrows are present in Section 5. Distinct 7-cm thick grayish-purple (5B 6/1) bands are located at regular intervals (20-27 cm, 82-87 cm, 103-111 cm, 137-144 cm) in Section 6 and in CC. The burrows are white and brown in these sections.

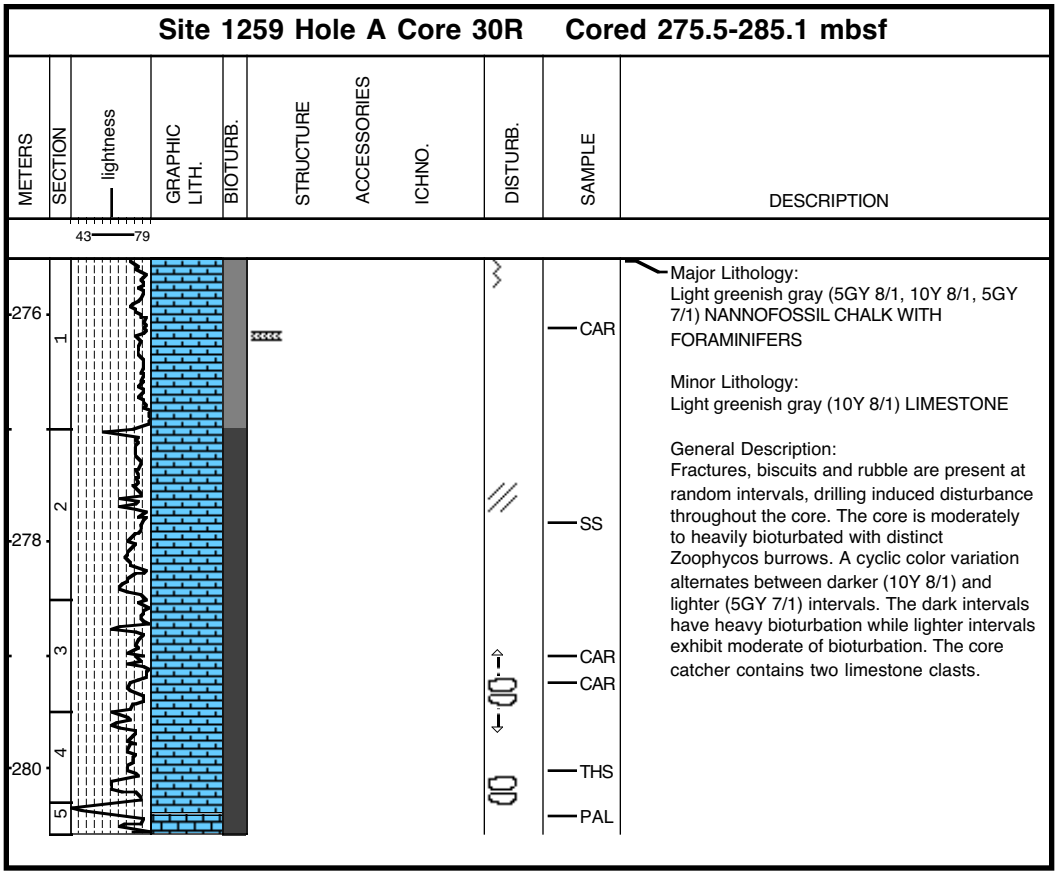
Core Photo


Site 1259 Hole A Core 28R Cored 256.2-265.8 mbsf
METERS
SECTION
lightness
54
77
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
1
2
3
258
SS
CAR
PAL
Major Lithology:
Light greenish gray (10GY 8/1)
NANNOFOSSIL CHALK WITH
FORAMINIFERS AND RADIOLARIANS
General Description:
The core is moderately bioturbated with distinct burrows. The top 15 cm of Section 1 is disturbed. Fracturing is present in parts of the rest of the core.
The top of Section 2 were disturbed by headspace sampling.

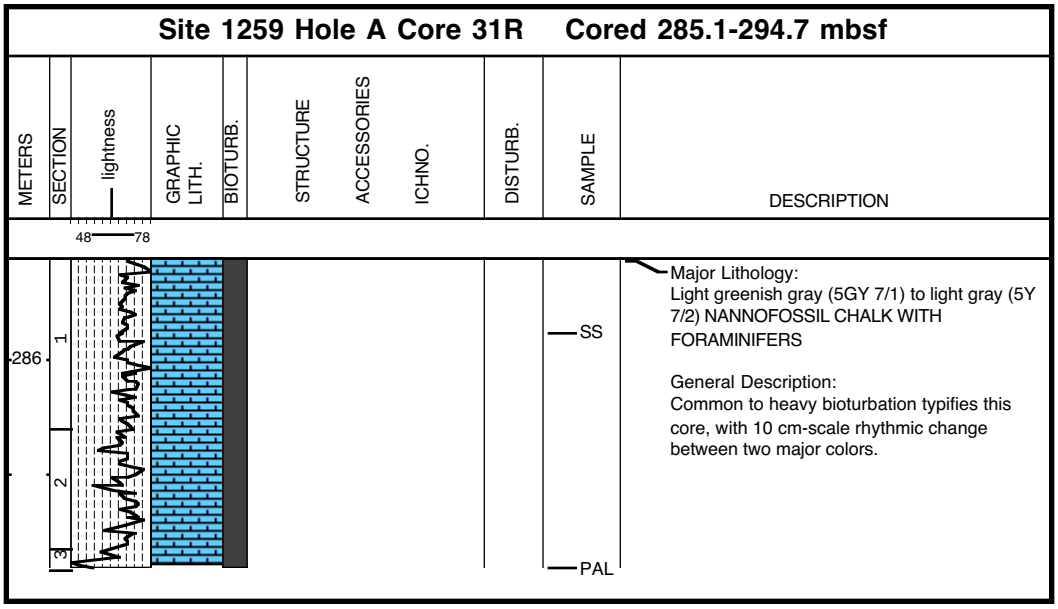
Core Photo


Site 1259 Hole A Core 29R Cored 265.8-275.5 mbsf
METERS
SECTION
lightness
26
76
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
266
268
270
272
274
1
2
3
4
5
6
7
CAR
CAR
SS
IW
CAR
PAL
Major Lithology:
Light greenish gray (10GY 8/1), and greenish gray (5GY 6/1) NANNOFOSSIL CHALK WITH FORAMINIFERS AND RADIOLARIANS
General Description:
Moderate bioturbation is present with distinct Zoophycos burrows and black mottles. Purple bands (redox boundaries?), as found throughout entire core at irregular intervals. Section 3 at 15 cm has a black band with common bioturbation downcore for 15 cm. The interval 124-142 cm in Section 5 is greenish gray, with gradual color changes at its base and top.

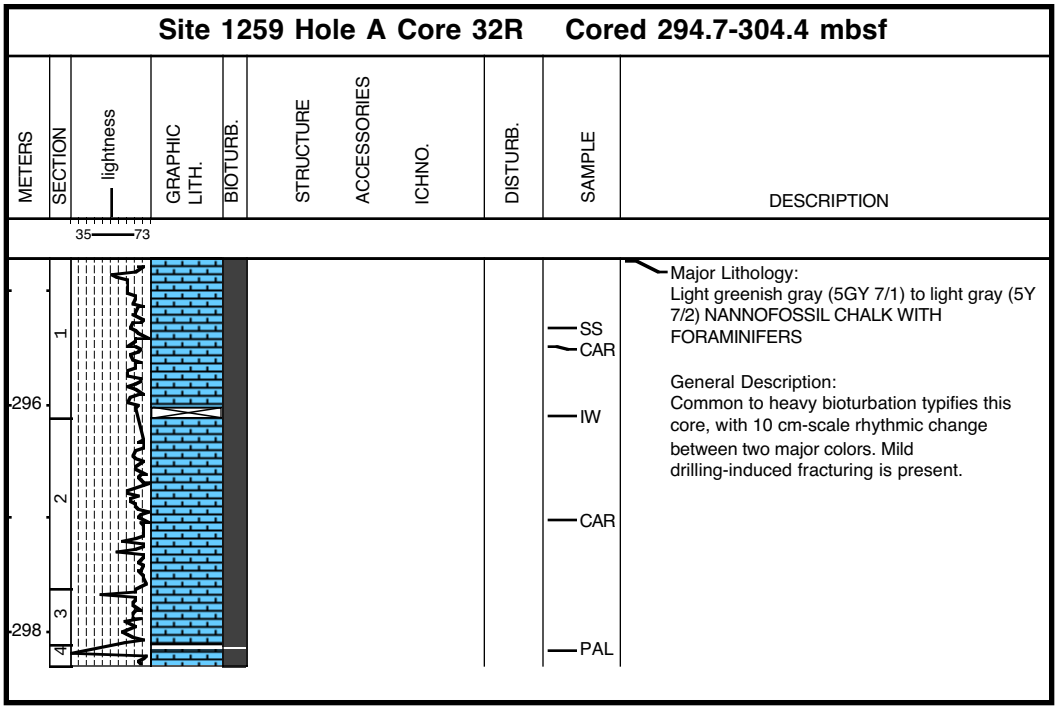
Core Photo


Site 1259 Hole A Core 30R Cored 275.5-285.1 mbsf
METERS
SECTION
lightness
43
79
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
276
278
280
1
2
3
4
5
CAR
SS
CAR
CAR
THS
PAL
Major Lithology:
Light greenish gray (5GY 8/1, 10Y 8/1, 5GY 7/1) NANNOFOSSIL CHALK WITH FORAMINIFERS
Minor Lithology:
Light greenish gray (10Y 8/1) LIMESTONE
General Description:
Fractures, biscuits and rubble are present at random intervals, drilling induced disturbance throughout the core. The core is moderately to heavily bioturbated with distinct Zoophycos burrows. A cyclic color variation alternates between darker (10Y 8/1) and lighter (5GY 7/1) intervals. The dark intervals have heavy bioturbation while lighter intervals exhibit moderate of bioturbation. The core catcher contains two limestone clasts.

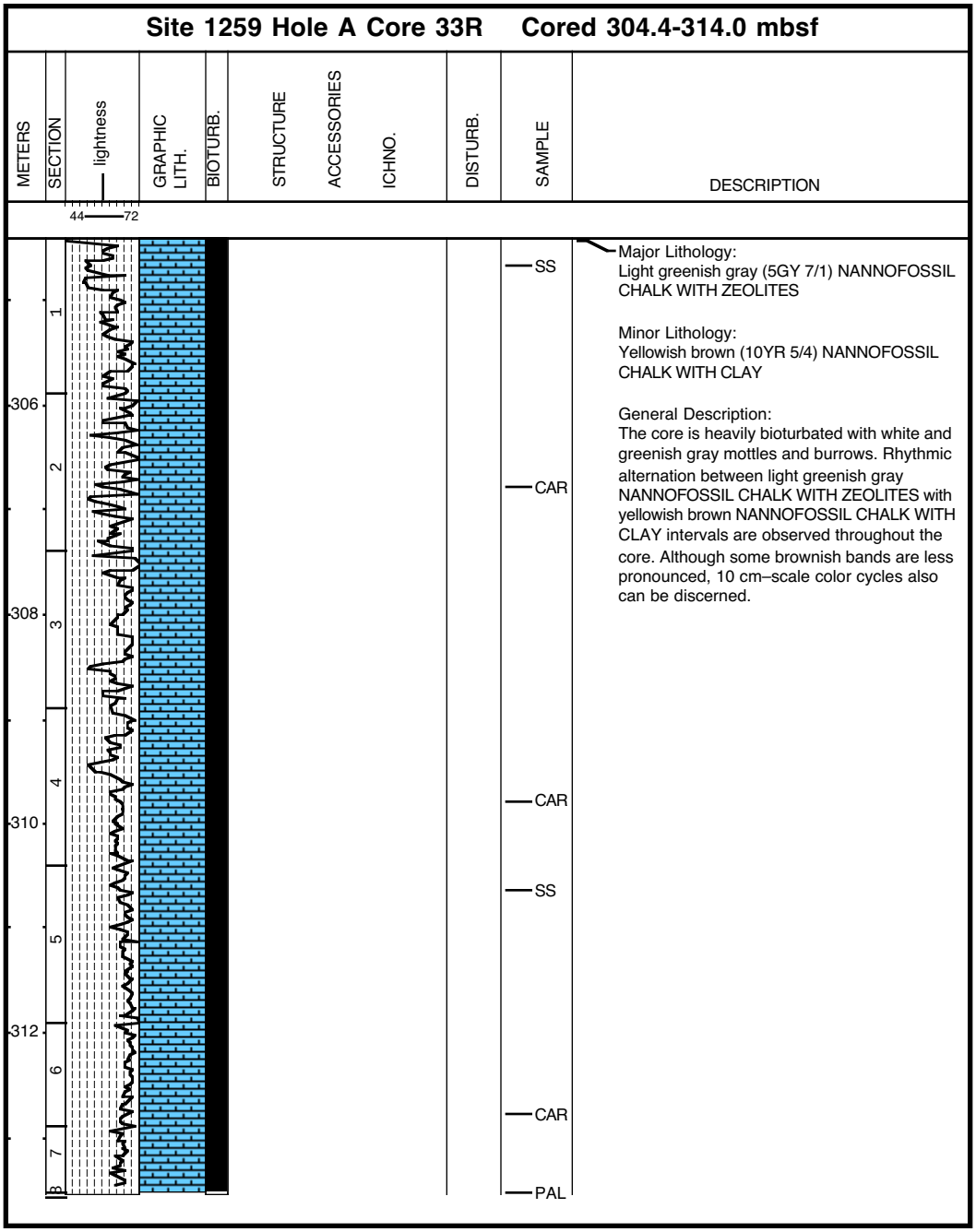
Core Photo


Site 1259 Hole A Core 31R Cored 285.1-294.7 mbsf
METERS
SECTION
lightness
48
78
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
286
1
2
3
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to light gray (5Y 7/2) NANNOFOSSIL CHALK WITH FORAMINIFERS
General Description:
Common to heavy bioturbation typifies this core, with 10 cm-scale rhythmic change between two major colors.

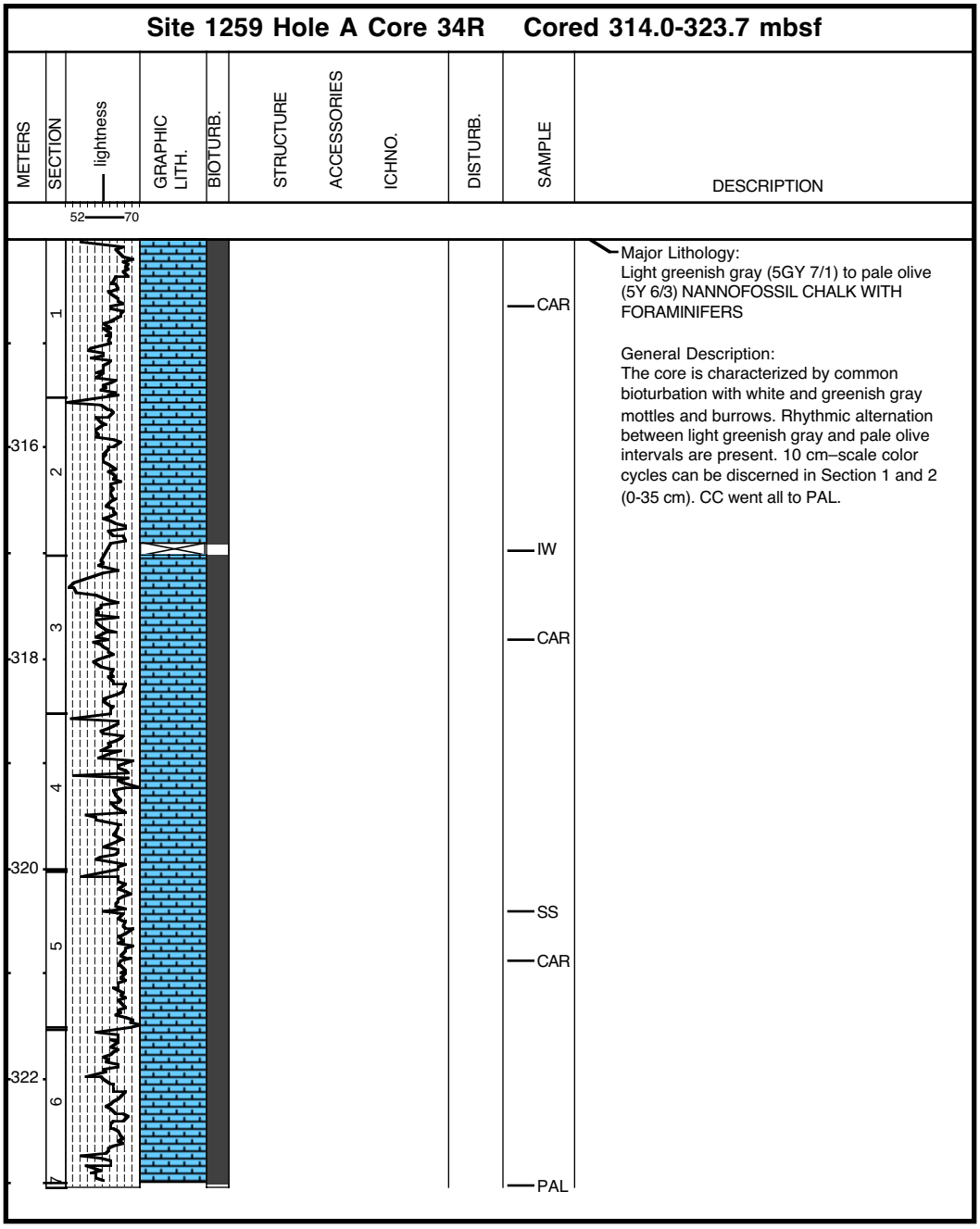
Core Photo


Site 1259 Hole A Core 32R Cored 294.7-304.4 mbsf
METERS
SECTION
lightness
35
73
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
296
298
1
2
3
4
SS
CAR
IW
CAR
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to light gray (5Y 7/2) NANNOFOSSIL CHALK WITH FORAMINIFERS
General Description:
Common to heavy bioturbation typifies this core, with 10 cm-scale rhythmic change between two major colors. Mild drilling-induced fracturing is present.

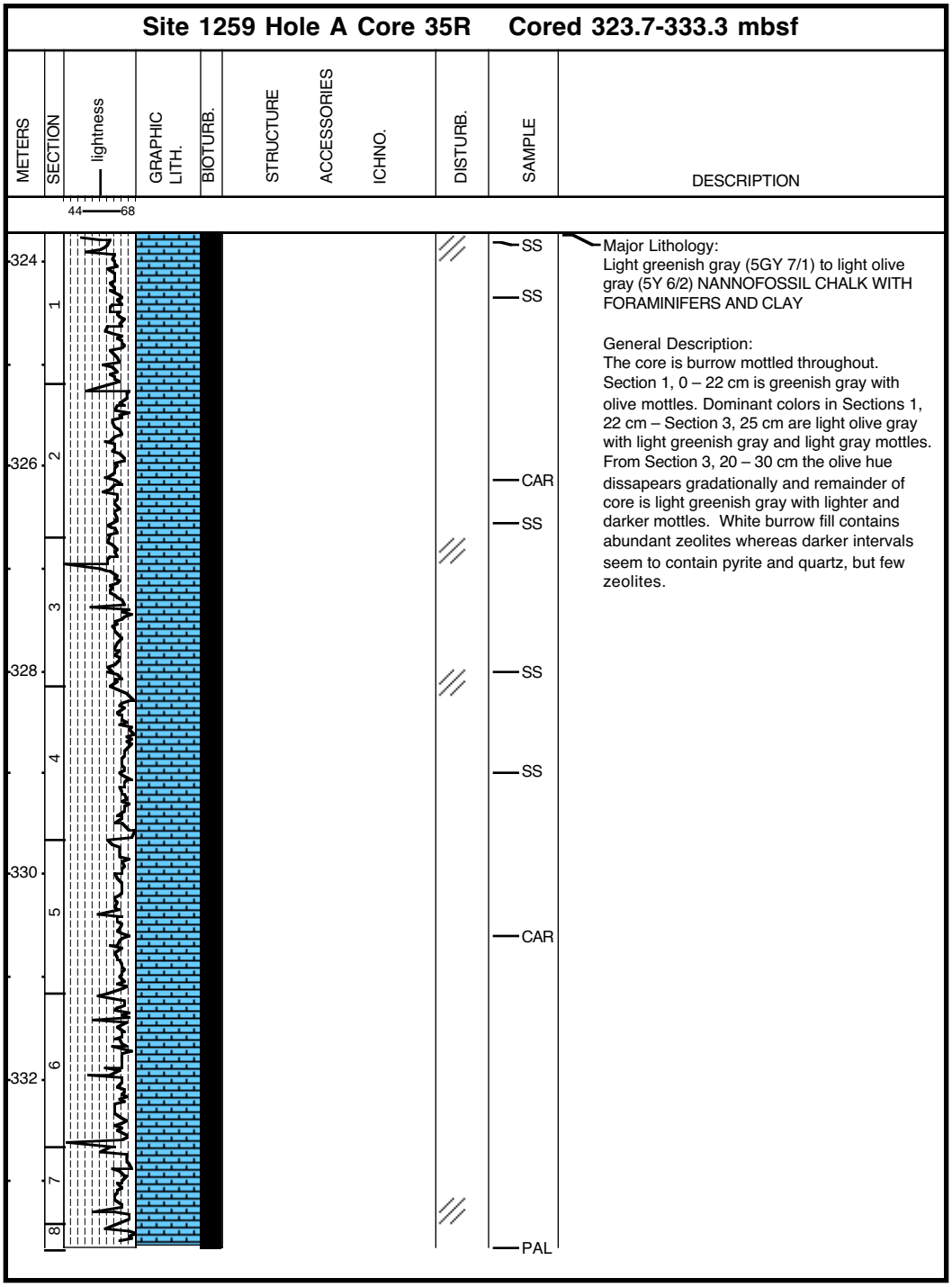
Core Photo


Site 1259 Hole A Core 33R Cored 304.4-314.0 mbsf
METERS
SECTION
lightness
44
72
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
306
308
310
312
1
2
3
4
5
6
7
CC
SS
CAR
CAR
SS
CAR
PAL
Major Lithology:
Light greenish gray (5GY 7/1) NANNOFOSSIL CHALK WITH ZEOLITES
Minor Lithology:
Yellowish brown (10YR 5/4) NANNOFOSSIL CHALK WITH CLAY
General Description:
The core is heavily bioturbated with white and greenish gray mottles and burrows. Rhythmic alternation between light greenish gray NANNOFOSSIL CHALK WITH ZEOLITES with yellowish brown NANNOFOSSIL CHALK WITH CLAY intervals are observed throughout the core. Although some brownish bands are less pronounced, 10 cm–scale color cycles also can be discerned.

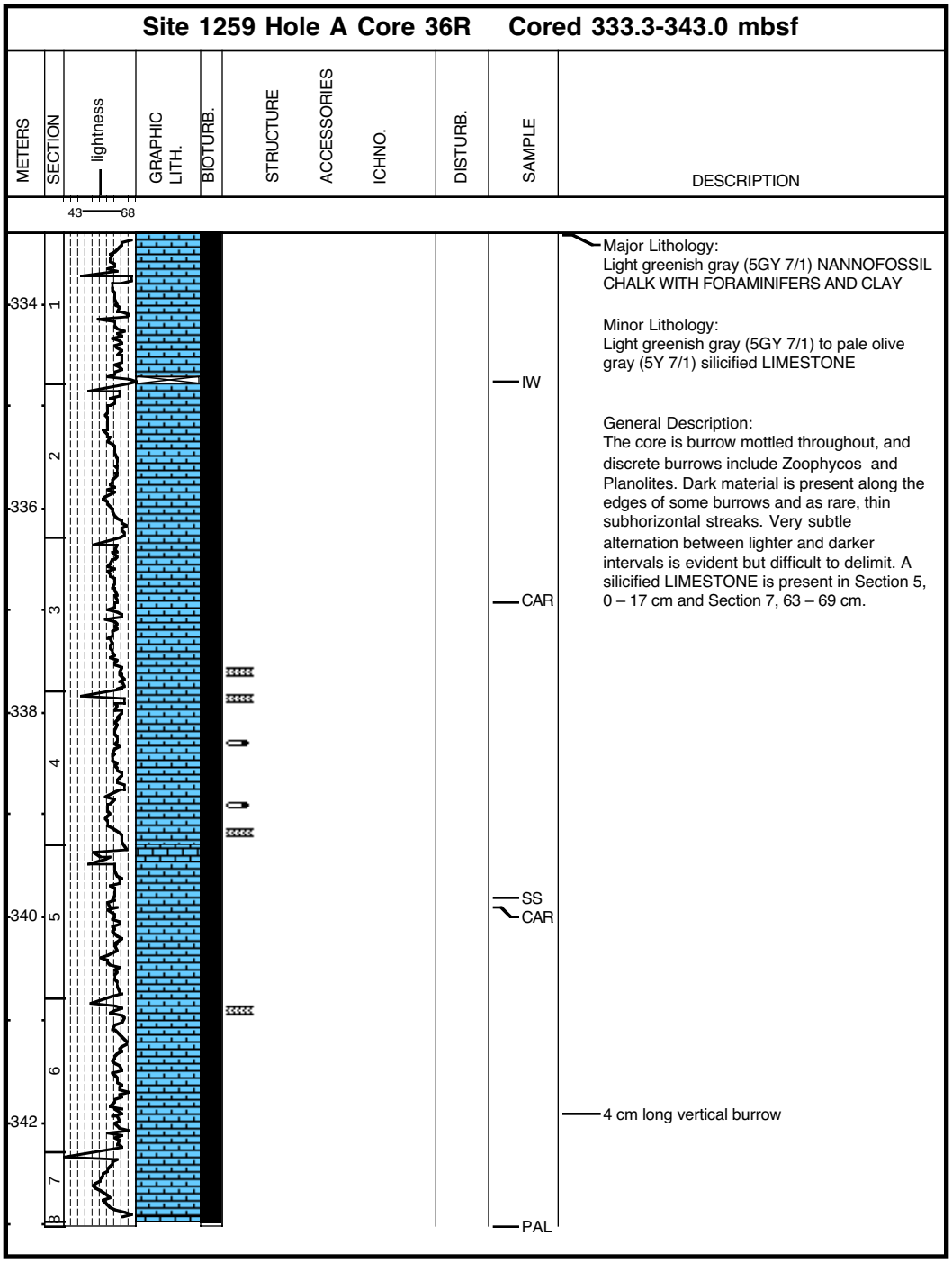
Core Photo


Site 1259 Hole A Core 34R Cored 314.0-323.7 mbsf
METERS
SECTION
lightness
52
70
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
316
318
320
322
1
2
3
4
5
6
7
CAR
IW
CAR
SS
CAR
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to pale olive (5Y 6/3) NANNOFOSSIL CHALK WITH FORAMINIFERS
General Description:
The core is characterized by common bioturbation with white and greenish gray mottles and burrows. Rhythmic alternation between light greenish gray and pale olive intervals are present. 10 cm–scale color cycles can be discerned in Section 1 and 2 (0-35 cm). CC went all to PAL.

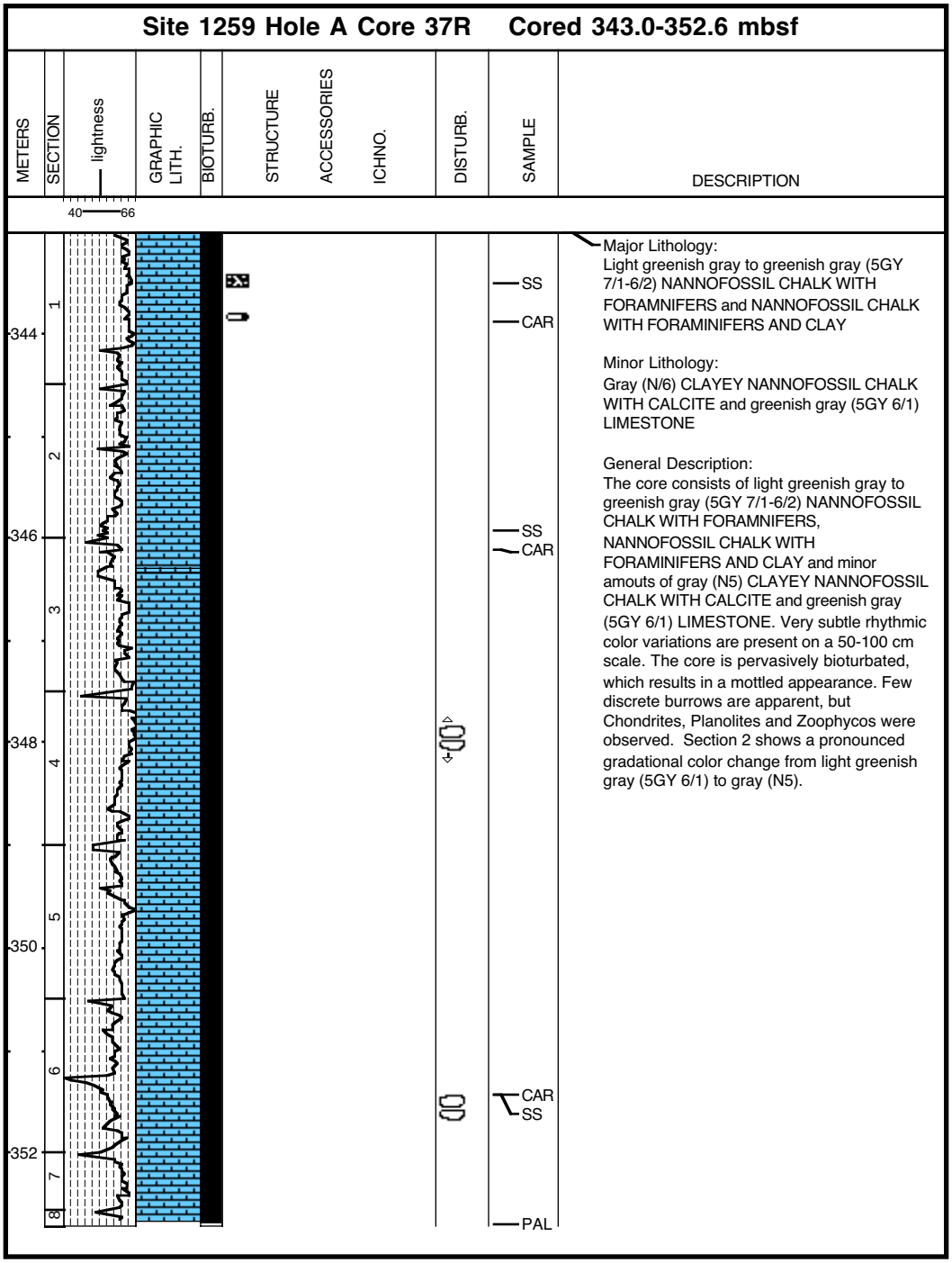
Core Photo


Site 1259 Hole A Core 35R Cored 323.7-333.3 mbsf
METERS
SECTION
lightness
44
68
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
324
326
328
330
332
1
2
3
4
5
6
7
8
SS
SS
CAR
SS
SS
SS
CAR
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to light olive gray (5Y 6/2) NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY
General Description:
The core is burrow mottled throughout. Section 1, 0 – 22 cm is greenish gray with olive mottles. Dominant colors in Sections 1, 22 cm – Section 3, 25 cm are light olive gray with light greenish gray and light gray mottles. From Section 3, 20 – 30 cm the olive hue dissapears gradationally and remainder of core is light greenish gray with lighter and darker mottles. White burrow fill contains abundant zeolites whereas darker intervals seem to contain pyrite and quartz, but few zeolites.

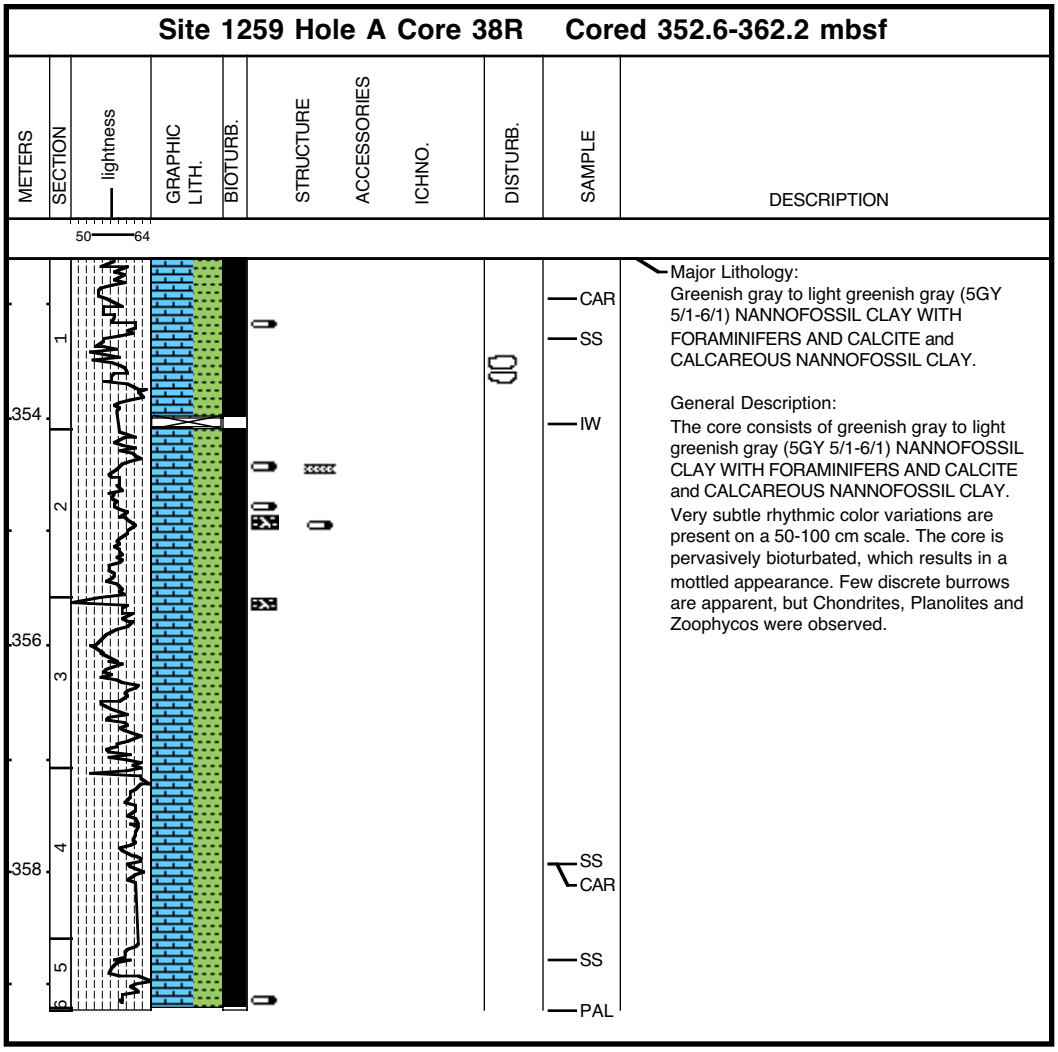
Core Photo


Site 1259 Hole A Core 36R Cored 333.3-343.0 mbsf
METERS
SECTION
lightness
43
68
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
334
336
338
340
342
1
2
3
4
5
6
7
CC
IW
CAR
SS
CAR
PAL
Major Lithology:
Light greenish gray (5GY 7/1) NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY
Minor Lithology:
Light greenish gray (5GY 7/1) to pale olive gray (5Y 7/1) silicified LIMESTONE
General Description:
The core is burrow mottled throughout, and discrete burrows include Zoophycos and Planolites. Dark material is present along the edges of some burrows and as rare, thin subhorizontal streaks. Very subtle alternation between lighter and darker intervals is evident but difficult to delimit. A silicified LIMESTONE is present in Section 5, 0 – 17 cm and Section 7, 63 – 69 cm.
4 cm long vertical burrow

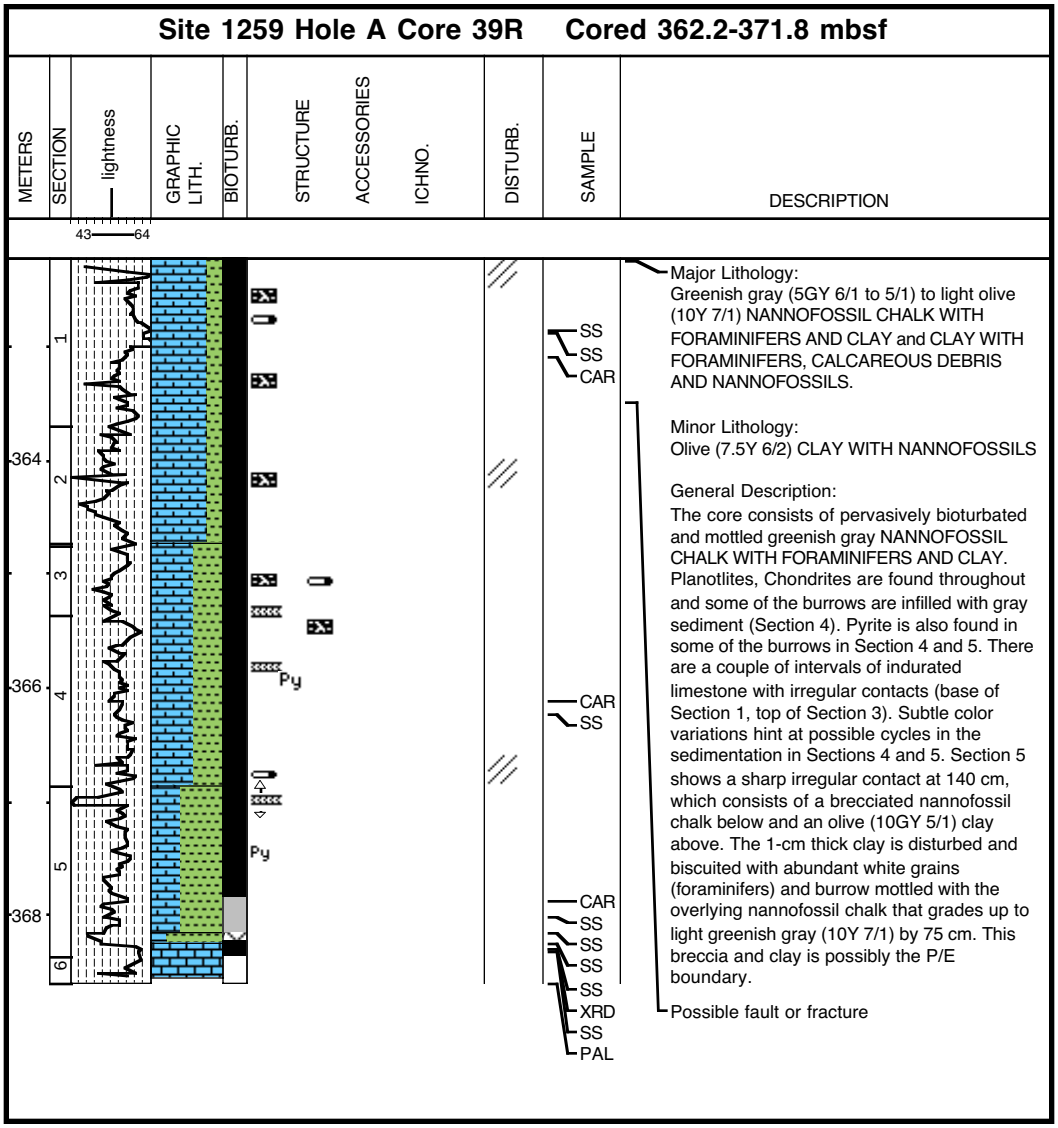
Core Photo


Site 1259 Hole A Core 37R Cored 343.0-352.6 mbsf
METERS
SECTION
lightness
40
66
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
344
346
348
350
352
1
2
3
4
5
6
7
8
SS
CAR
SS
CAR
CAR
SS
PAL
Major Lithology:
Light greenish gray to greenish gray (5GY 7/1-6/2) NANNOFOSSIL CHALK WITH FORAMNIFERS and NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY
Minor Lithology:
Gray (N/6) CLAYEY NANNOFOSSIL CHALK WITH CALCITE and greenish gray (5GY 6/1) LIMESTONE
General Description:
The core consists of light greenish gray to greenish gray (5GY 7/1-6/2) NANNOFOSSIL CHALK WITH FORAMNIFERS, NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY and minor amouts of gray (N5) CLAYEY NANNOFOSSIL CHALK WITH CALCITE and greenish gray (5GY 6/1) LIMESTONE. Very subtle rhythmic color variations are present on a 50-100 cm scale. The core is pervasively bioturbated, which results in a mottled appearance. Few discrete burrows are apparent, but Chondrites, Planolites and Zoophycos were observed. Section 2 shows a pronounced gradational color change from light greenish gray (5GY 6/1) to gray (N5).

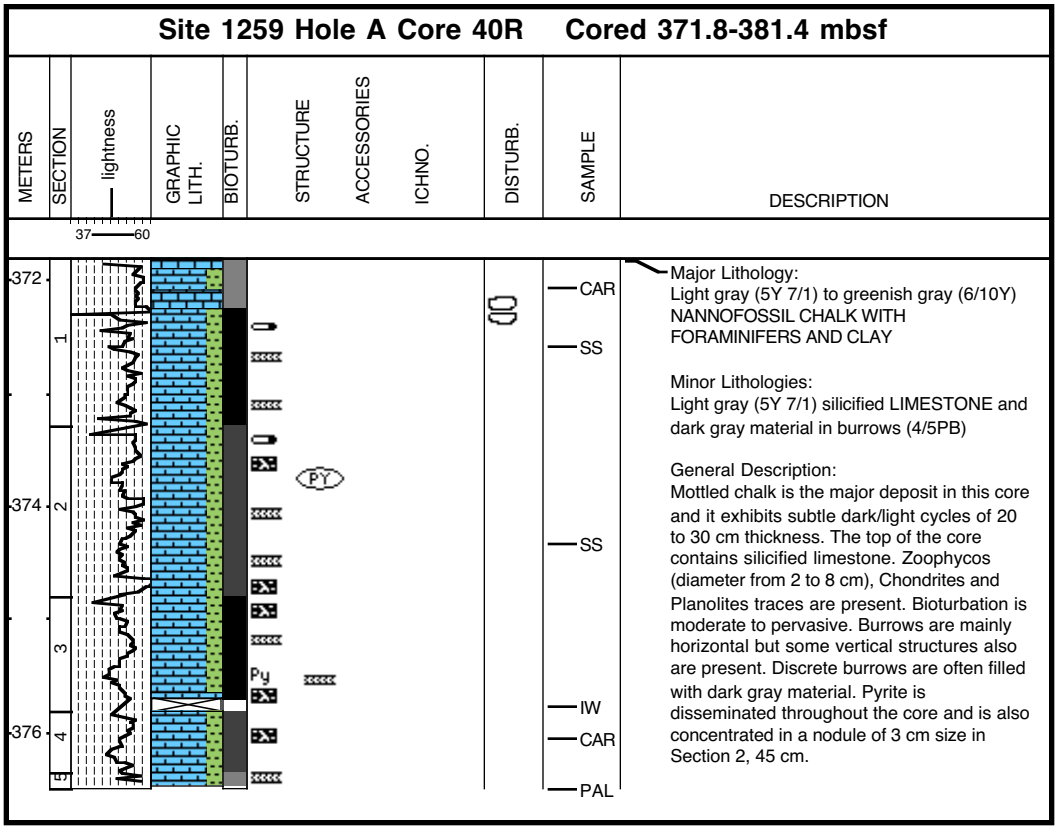
Core Photo


Site 1259 Hole A Core 38R Cored 352.6-362.2 mbsf
METERS
SECTION
lightness
50
64
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
354
356
358
1
2
3
4
5
6
CAR
SS
IW
SS
CAR
SS
PAL
Major Lithology:
Greenish gray to light greenish gray (5GY 5/1-6/1) NANNOFOSSIL CLAY WITH FORAMINIFERS AND CALCITE and CALCAREOUS NANNOFOSSIL CLAY.
General Description:
The core consists of greenish gray to light greenish gray (5GY 5/1-6/1) NANNOFOSSIL CLAY WITH FORAMINIFERS AND CALCITE and CALCAREOUS NANNOFOSSIL CLAY. Very subtle rhythmic color variations are present on a 50-100 cm scale. The core is pervasively bioturbated, which results in a mottled appearance. Few discrete burrows are apparent, but Chondrites, Planolites and Zoophycos were observed.

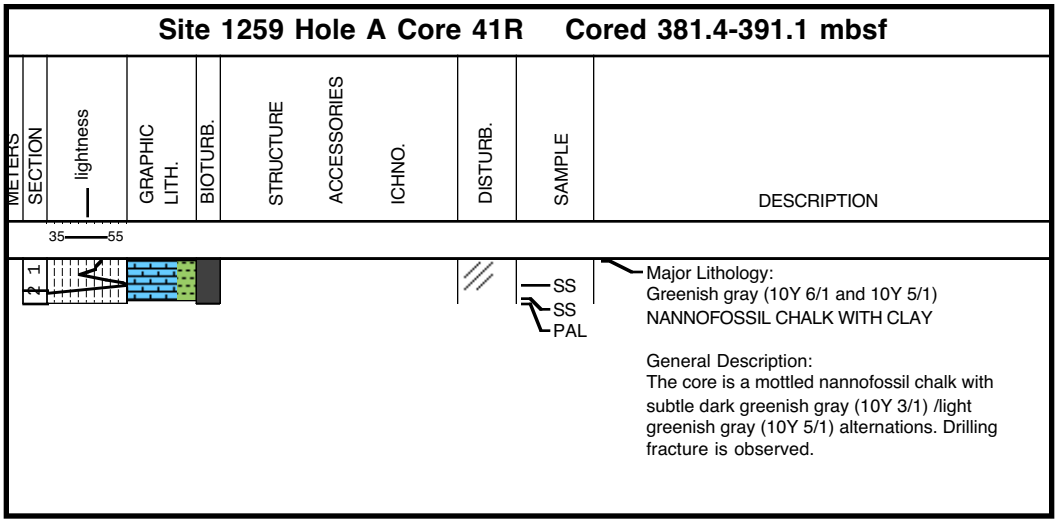
Core Photo


Site 1259 Hole A Core 39R Cored 362.2-371.8 mbsf
METERS
SECTION
lightness
43
64
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
364
366
368
1
2
3
4
5
6
Py
Py
SS
SS
CAR
CAR
SS
CAR
SS
SS
SS
SS
XRD
SS
PAL
Major Lithology:
Greenish gray (5GY 6/1 to light olive (10Y 7/1) NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY and CLAY WITH FORAMINIFERS, CALCAREOUS DEBRIS AND NANNOFOSSILS.
Minor Lithology:
Olive (7.5Y 6/2) CLAY WITH NANNOFOSSILS
General Description:
The core consists of pervasively bioturbated and mottled greenish gray NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY. Planotlites, Chondrites are found throughout and some of the burrows are infilled with gray sediment (Section 4). Pyrite is also found in some of the burrows in Section 4 and 5. There are a couple of intervals of indurated limestone with irregular contacts (base of Section 1, top of Section 3). Subtle color variations hint at possible cycles in the sedimentation in Sections 4 and 5. Section 5 shows a sharp irregular contact at 140 cm, which consists of a brecciated nannofossil chalk below and an olive (10GY 5/1) clay above. The 1-cm thick clay is disturbed and biscuited with abundant white grains (foraminifers) and burrow mottled with the overlying nannofossil chalk that grades up to light greenish gray (10Y 7/1) by 75 cm. This breccia and clay is possibly the P/E boundary.
Possible fault or fracture

Core Photo

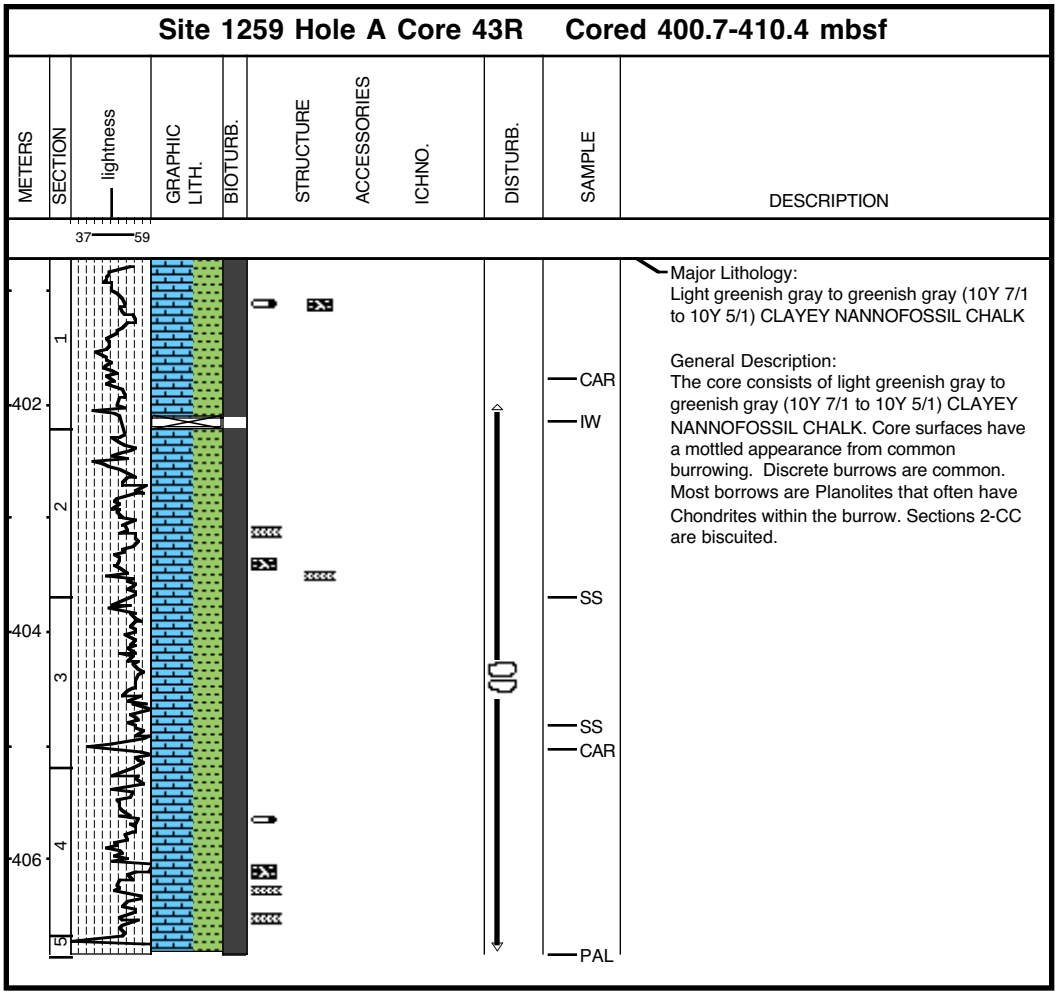

Site 1259 Hole A Core 40R Cored 371.8-381.4 mbsf
METERS
SECTION
lightness
37
60
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
372
374
376
1
2
3
4
CC
PY
Py
CAR
SS
SS
IW
CAR
PAL
Major Lithology:
Light gray (5Y 7/1) to greenish gray (6/10Y) NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY
Minor Lithologies:
Light gray (5Y 7/1) silicified LIMESTONE and dark gray material in burrows (4/5PB)
General Description:
Mottled chalk is the major deposit in this core and it exhibits subtle dark/light cycles of 20 to 30 cm thickness. The top of the core contains silicified limestone. Zoophycos (diameter from 2 to 8 cm), Chondrites and Planolites traces are present. Bioturbation is moderate to pervasive. Burrows are mainly horizontal but some vertical structures also are present. Discrete burrows are often filled with dark gray material. Pyrite is disseminated throughout the core and is also concentrated in a nodule of 3 cm size in Section 2, 45 cm.

Core Photo

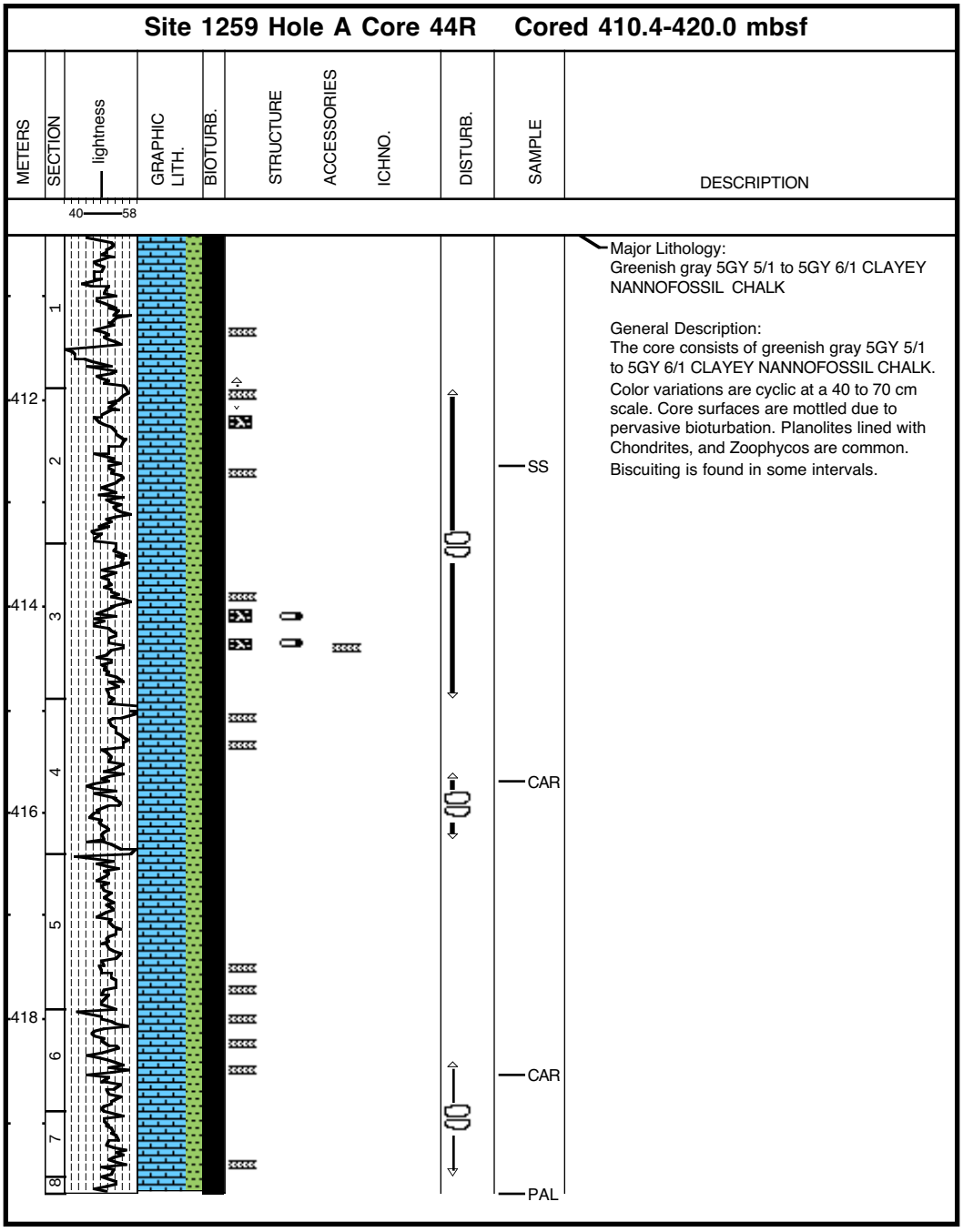


1259A-42R NO RECOVERY

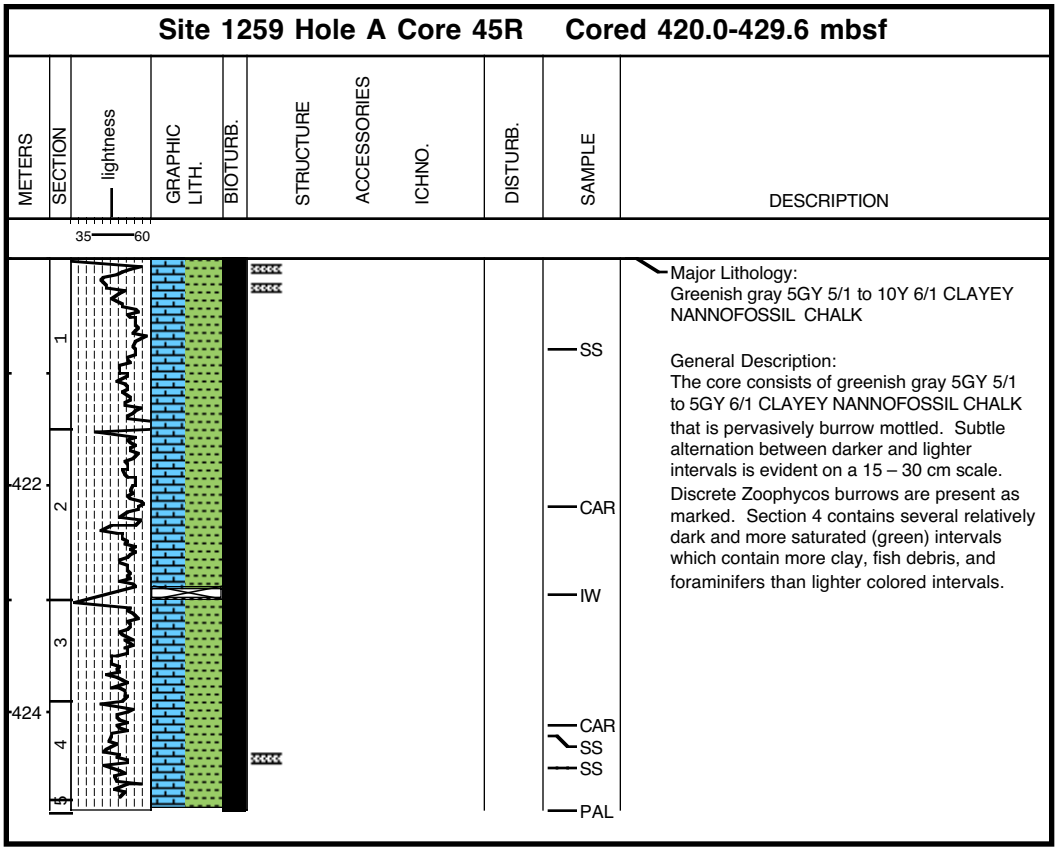
Core Photo


Site 1259 Hole A Core 43R Cored 400.7-410.4 mbsf
METERS
SECTION
lightness
37
59
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
402
404
406
1
2
3
4
5
CAR
IW
SS
SS
CAR
PAL
Major Lithology:
Light greenish gray to greenish gray (10Y 7/1 to 10Y 5/1) CLAYEY NANNOFOSSIL CHALK
General Description:
The core consists of light greenish gray to greenish gray (10Y 7/1 to 10Y 5/1) CLAYEY NANNOFOSSIL CHALK. Core surfaces have a mottled appearance from common burrowing. Discrete burrows are common. Most borrows are Planolites that often have Chondrites within the burrow. Sections 2-CC are biscuited.

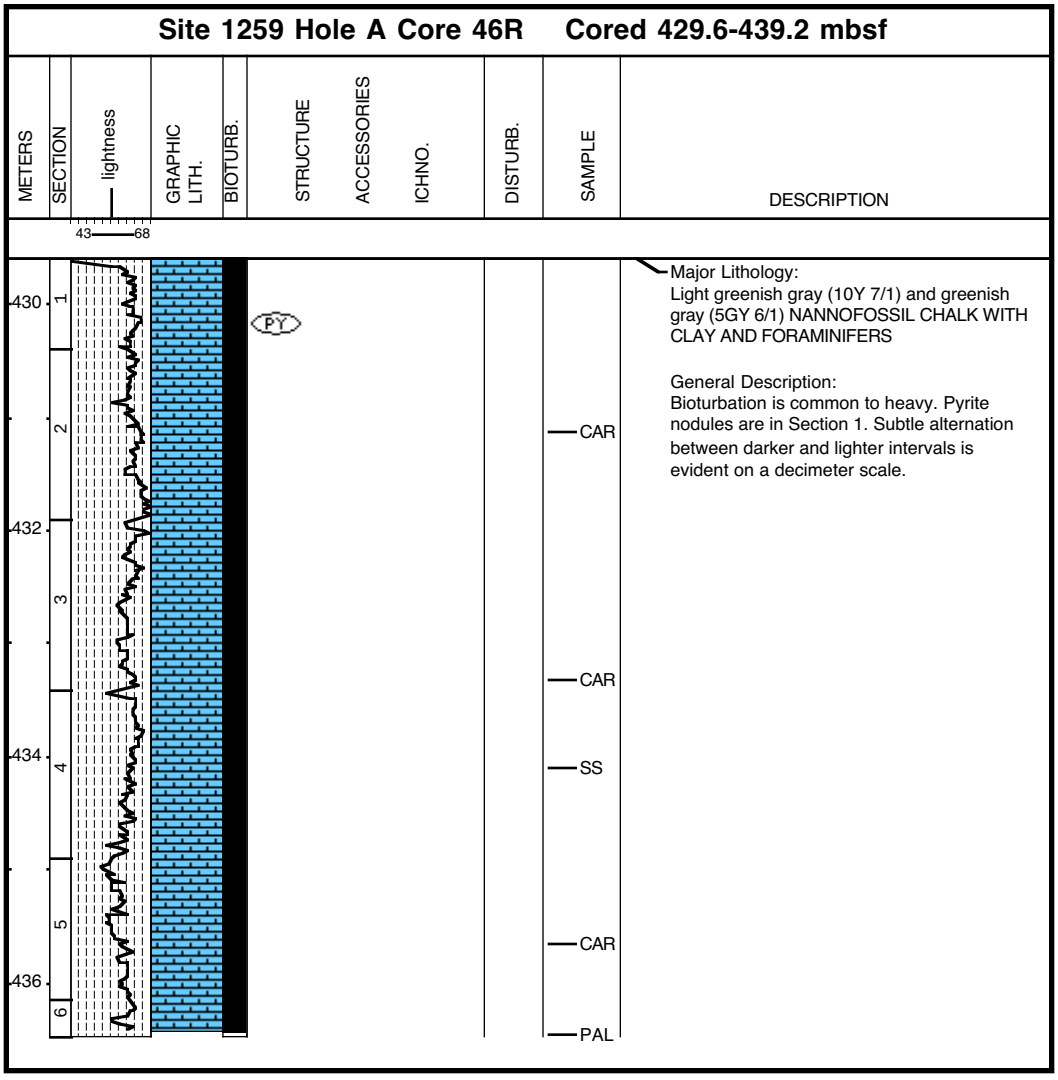
Core Photo


Site 1259 Hole A Core 44R Cored 410.4-420.0 mbsf
METERS
SECTION
lightness
40
58
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
412
414
416
418
1
2
3
4
5
6
7
8
SS
CAR
CAR
PAL
Major Lithology:
Greenish gray 5GY 5/1 to 5GY 6/1 CLAYEY NANNOFOSSIL CHALK
General Description:
The core consists of greenish gray 5GY 5/1 to 5GY 6/1 CLAYEY NANNOFOSSIL CHALK. Color variations are cyclic at a 40 to 70 cm scale. Core surfaces are mottled due to pervasive bioturbation. Planolites lined with Chondrites, and Zoophycos are common. Biscuiting is found in some intervals.

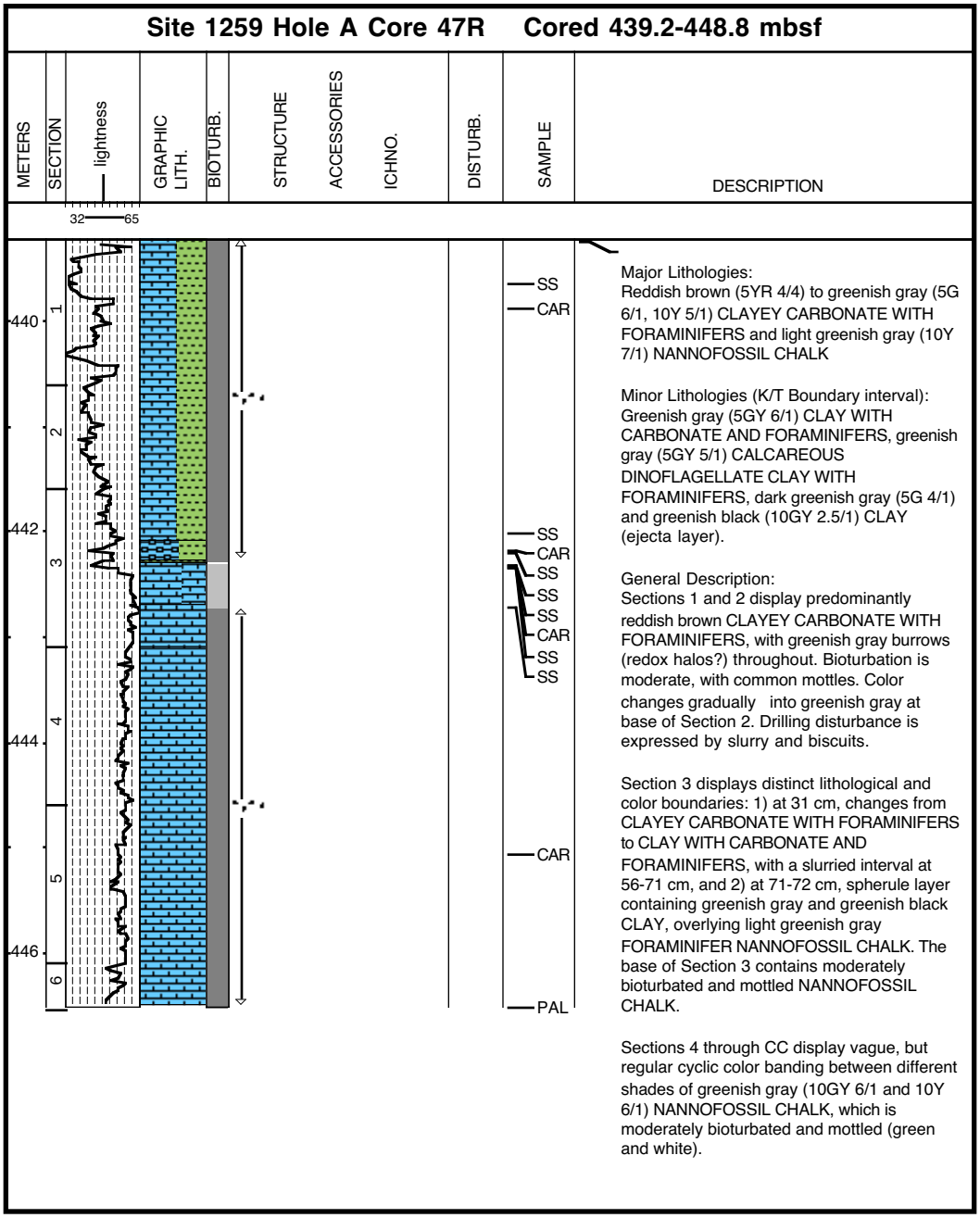
Core Photo


Site 1259 Hole A Core 45R Cored 420.0-429.6 mbsf
METERS
SECTION
lightness
35
60
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
422
424
1
2
3
4
SS
CAR
IW
CAR
SS
SS
PAL
Major Lithology:
Greenish gray 5GY 5/1 to 10Y 6/1 CLAYEY NANNOFOSSIL CHALK
General Description:
The core consists of greenish gray 5GY 5/1 to 5GY 6/1 CLAYEY NANNOFOSSIL CHALK that is pervasively burrow mottled. Subtle alternation between darker and lighter intervals is evident on a 15 – 30 cm scale. Discrete Zoophycos burrows are present as marked. Section 4 contains several relatively dark and more saturated (green) intervals which contain more clay, fish debris, and foraminifers than lighter colored intervals.

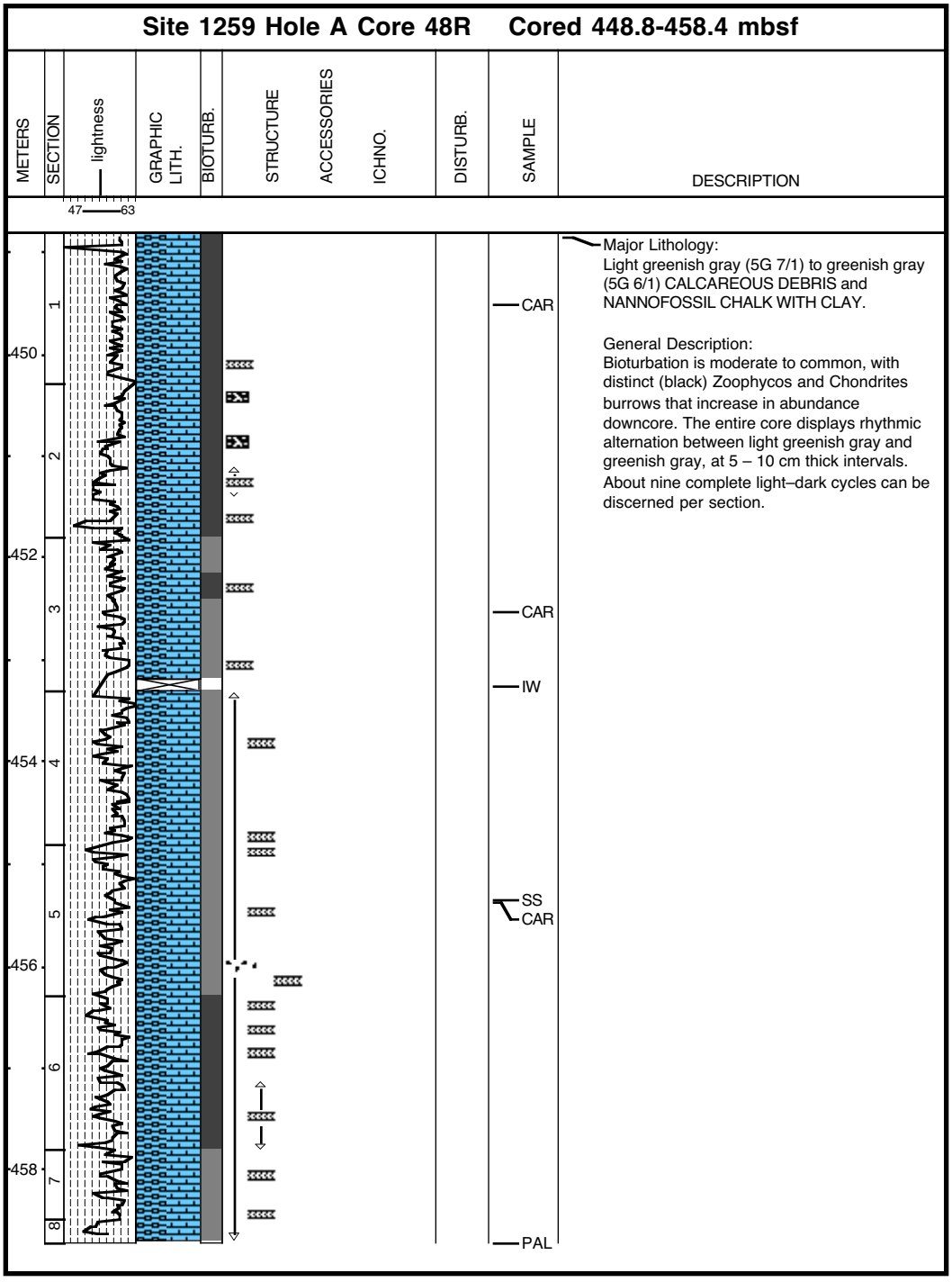
Core Photo


Site 1259 Hole A Core 46R Cored 429.6-439.2 mbsf
METERS
SECTION
lightness
43
68
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
430
432
434
436
1
2
3
4
5
6
PY
CAR
CAR
SS
CAR
PAL
Major Lithology:
Light greenish gray (10Y 7/1) and greenish gray (5GY 6/1) NANNOFOSSIL CHALK WITH CLAY AND FORAMINIFERS
General Description:
Bioturbation is common to heavy. Pyrite nodules are in Section 1. Subtle alternation between darker and lighter intervals is evident on a decimeter scale.

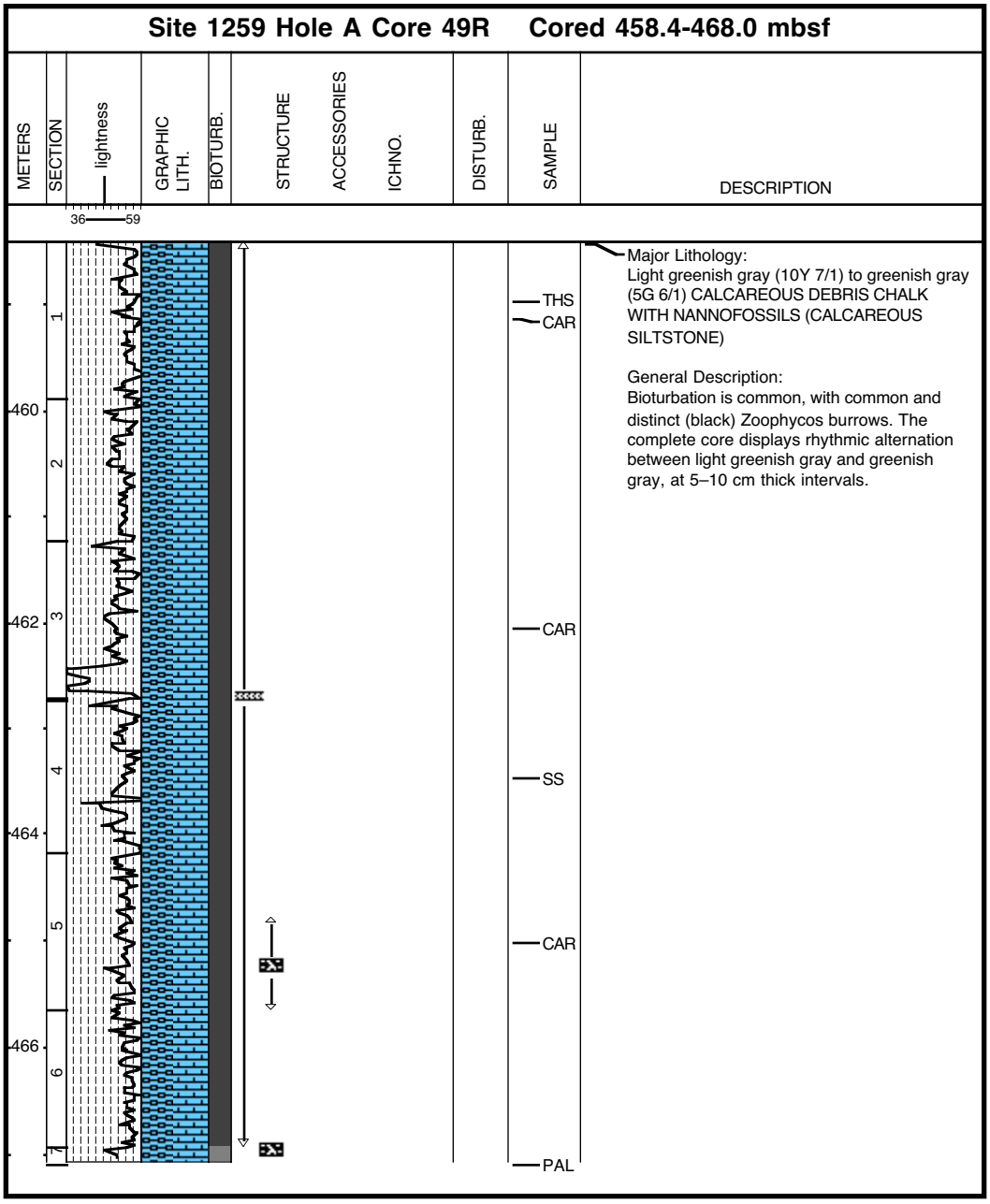
Core Photo


Site 1259 Hole A Core 47R Cored 439.2-448.8 mbsf
METERS
SECTION
lightness
32
65
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
440
442
444
446
1
2
3
4
5
6
SS
CAR
SS
CAR
SS
SS
SS
CAR
SS
SS
CAR
PAL
Major Lithologies:
Reddish brown (5YR 4/4) to greenish gray (5G 6/1, 10Y 5/1) CLAYEY CARBONATE WITH FORAMINIFERS and light greenish gray (10Y 7/1) NANNOFOSSIL CHALK
Minor Lithologies (K/T Boundary interval):
Greenish gray (5GY 6/1) CLAY WITH CARBONATE AND FORAMINIFERS, greenish gray (5GY 5/1) CALCAREOUS DINOFLAGELLATE CLAY WITH FORAMINIFERS, dark greenish gray (5G 4/1) and greenish black (10GY 2.5/1) CLAY (ejecta layer).
General Description:
Sections 1 and 2 display predominantly reddish brown CLAYEY CARBONATE WITH FORAMINIFERS, with greenish gray burrows (redox halos?) throughout. Bioturbation is moderate, with common mottles. Color changes gradually into greenish gray at base of Section 2. Drilling disturbance is expressed by slurry and biscuits.
Section 3 displays distinct lithological and color boundaries: 1) at 31 cm, changes from CLAYEY CARBONATE WITH FORAMINIFERS to CLAY WITH CARBONATE AND FORAMINIFERS, with a slurried interval at 56-71 cm, and 2) at 71-72 cm, spherule layer containing greenish gray and greenish black CLAY, overlying light greenish gray FORAMINIFER NANNOFOSSIL CHALK. The base of Section 3 contains moderately bioturbated and mottled NANNOFOSSIL CHALK.
Sections 4 through CC display vague, but regular cyclic color banding between different shades of greenish gray (10GY 6/1 and 10Y 6/1) NANNOFOSSIL CHALK, which is moderately bioturbated and mottled (green and white).

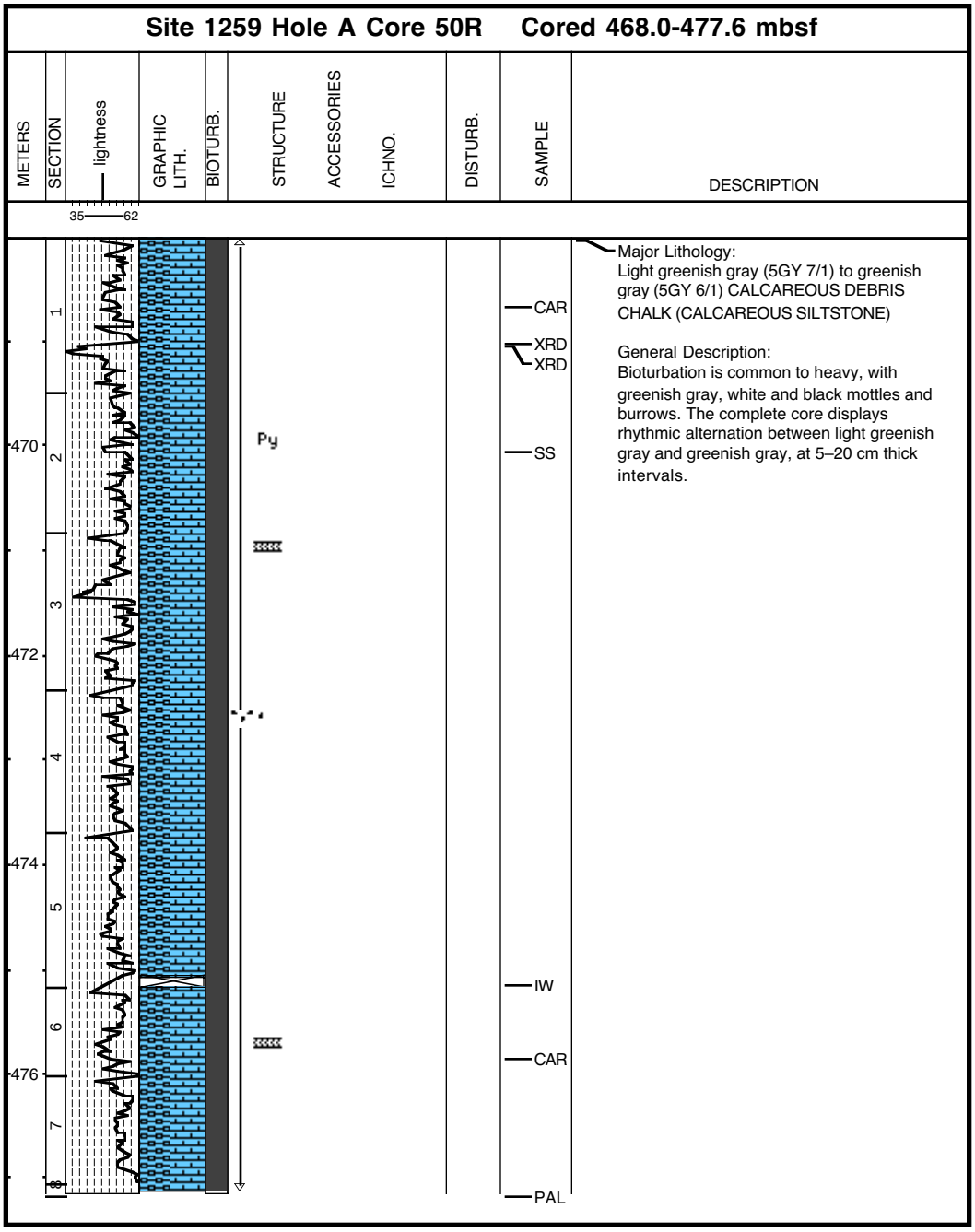
Core Photo


Site 1259 Hole A Core 48R Cored 448.8-458.4 mbsf
METERS
SECTION
lightness
47
63
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
450
452
454
456
458
1
2
3
4
5
6
7
8
CAR
CAR
IW
SS
CAR
PAL
Major Lithology:
Light greenish gray (5G 7/1) to greenish gray (5G 6/1) CALCAREOUS DEBRIS and NANNOFOSSIL CHALK WITH CLAY.
General Description:
Bioturbation is moderate to common, with distinct (black) Zoophycos and Chondrites burrows that increase in abundance downcore. The entire core displays rhythmic alternation between light greenish gray and greenish gray, at 5 – 10 cm thick intervals. About nine complete light–dark cycles can be discerned per section.

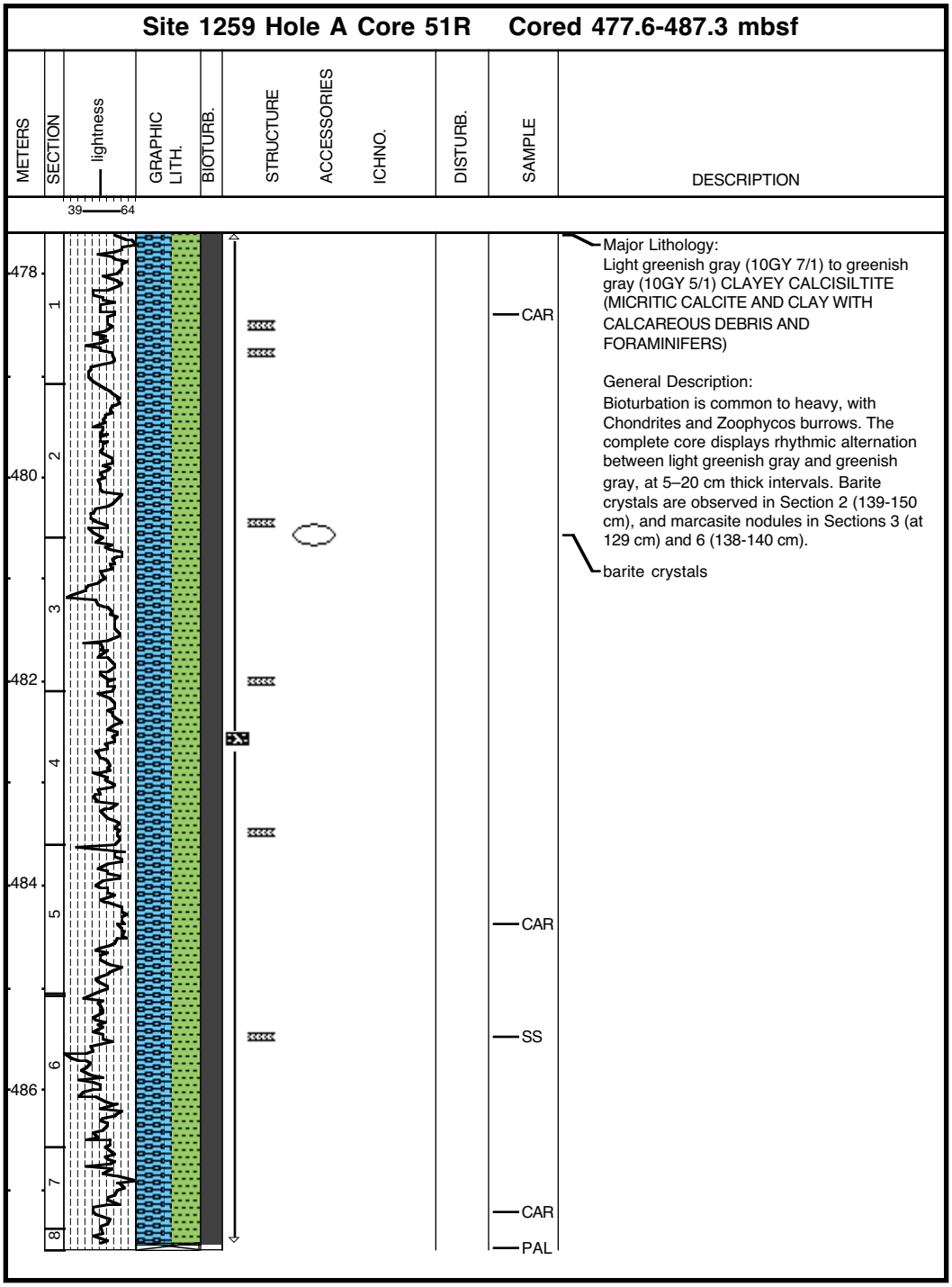
Core Photo


Site 1259 Hole A Core 49R Cored 458.4-468.0 mbsf
METERS
SECTION
lightness
36
59
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
460
462
464
466
1
2
3
4
5
6
7
THS
CAR
CAR
SS
CAR
PAL
Major Lithology:
Light greenish gray (10Y 7/1) to greenish gray (5G 6/1) CALCAREOUS DEBRIS CHALK WITH NANNOFOSSILS (CALCAREOUS SILTSTONE)
General Description:
Bioturbation is common, with common and distinct (black) Zoophycos burrows. The complete core displays rhythmic alternation between light greenish gray and greenish gray, at 5–10 cm thick intervals.

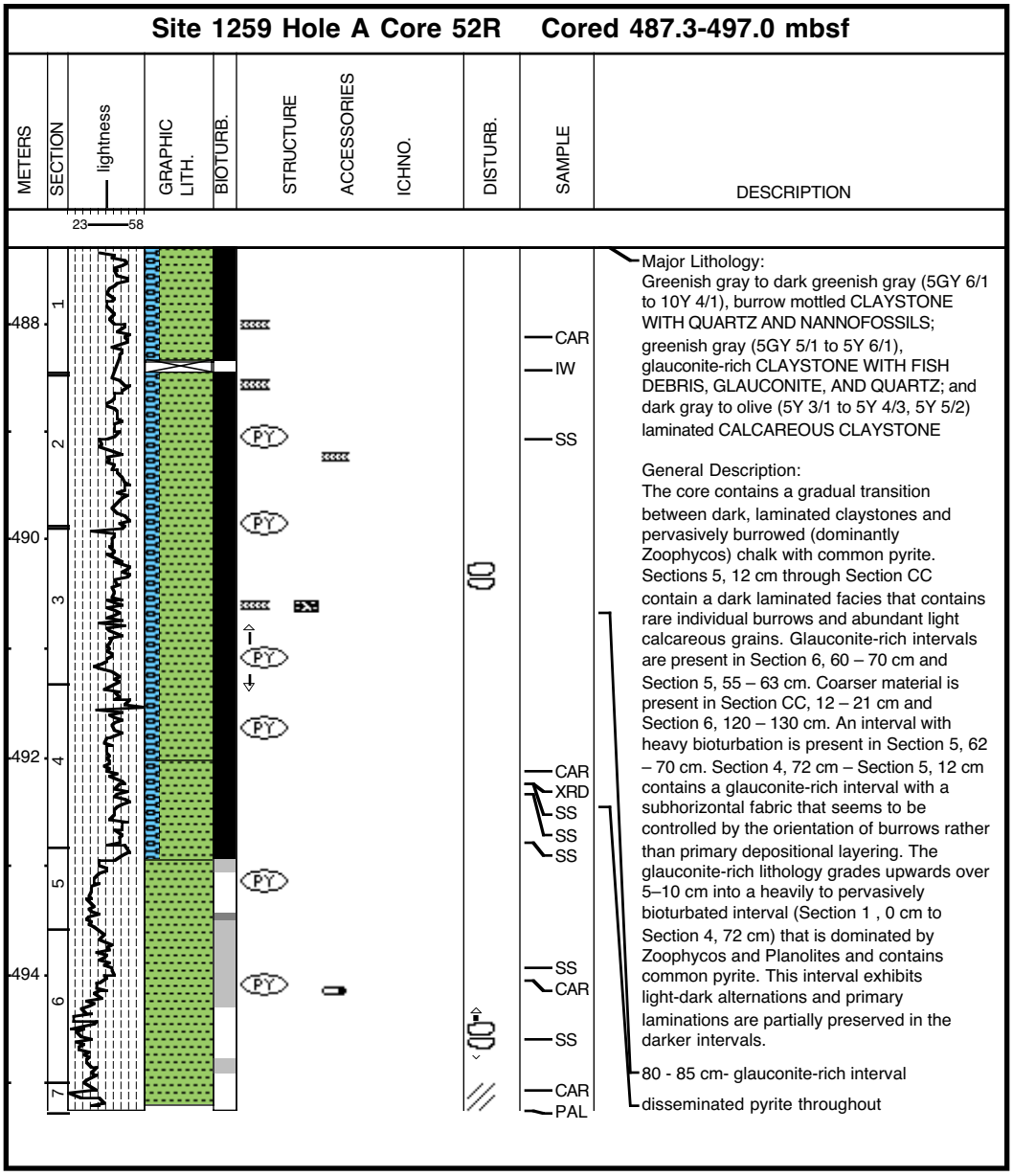
Core Photo


Site 1259 Hole A Core 50R Cored 468.0-477.6 mbsf
METERS
SECTION
lightness
35
62
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
470
472
474
476
1
2
3
4
5
6
7
Py
CAR
XRD
XRD
SS
IW
CAR
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to greenish gray (5GY 6/1) CALCAREOUS DEBRIS CHALK (CALCAREOUS SILTSTONE)
General Description:
Bioturbation is common to heavy, with greenish gray, white and black mottles and burrows. The complete core displays rhythmic alternation between light greenish gray and greenish gray, at 5–20 cm thick intervals.

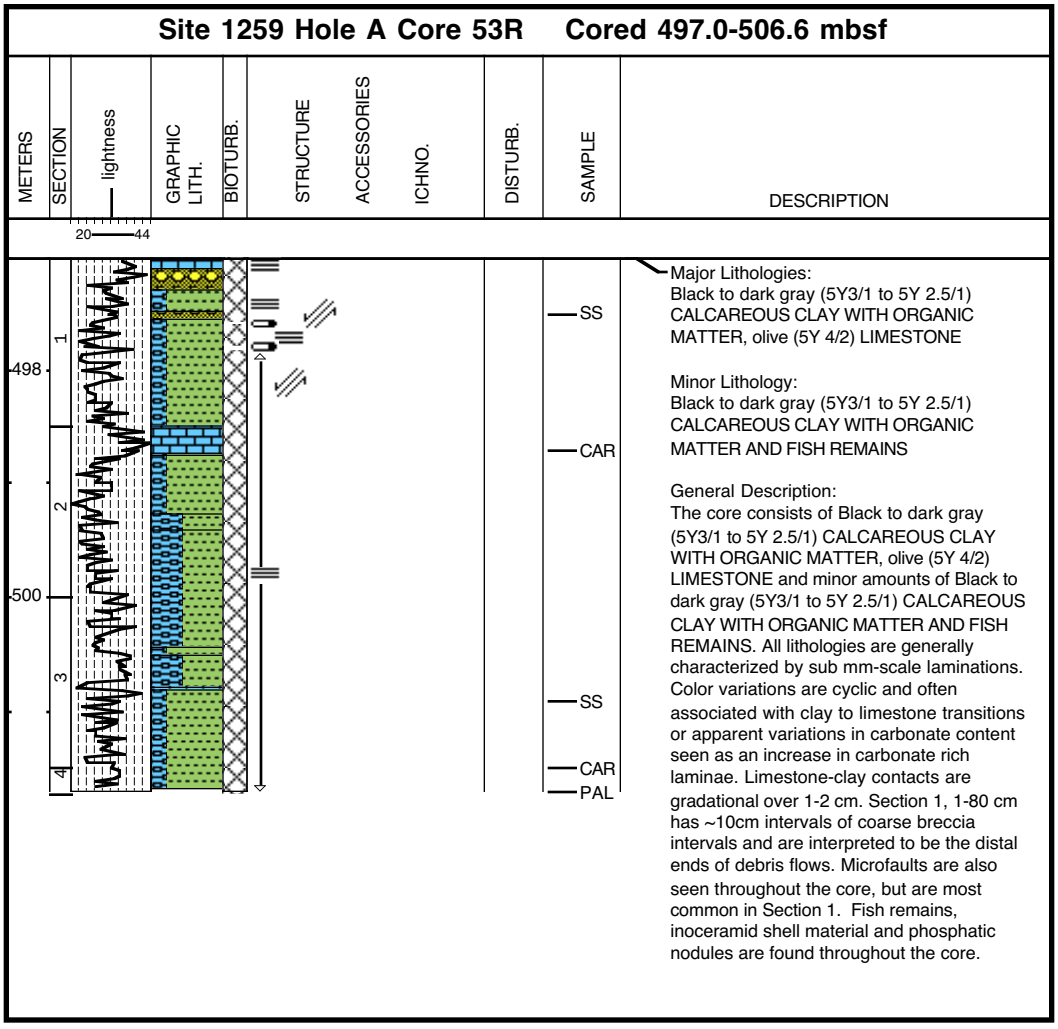
Core Photo


Site 1259 Hole A Core 51R Cored 477.6-487.3 mbsf
METERS
SECTION
lightness
39
64
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
478
480
482
484
486
1
2
3
4
5
6
7
8
CAR
CAR
SS
CAR
PAL
Major Lithology:
Light greenish gray (10GY 7/1) to greenish gray (10GY 5/1) CLAYEY CALCISILTITE (MICRITIC CALCITE AND CLAY WITH CALCAREOUS DEBRIS AND FORAMINIFERS)
General Description:
Bioturbation is common to heavy, with Chondrites and Zoophycos burrows. The complete core displays rhythmic alternation between light greenish gray and greenish gray, at 5–20 cm thick intervals. Barite crystals are observed in Section 2 (139-150 cm), and marcasite nodules in Sections 3 (at 129 cm) and 6 (138-140 cm).
barite crystals

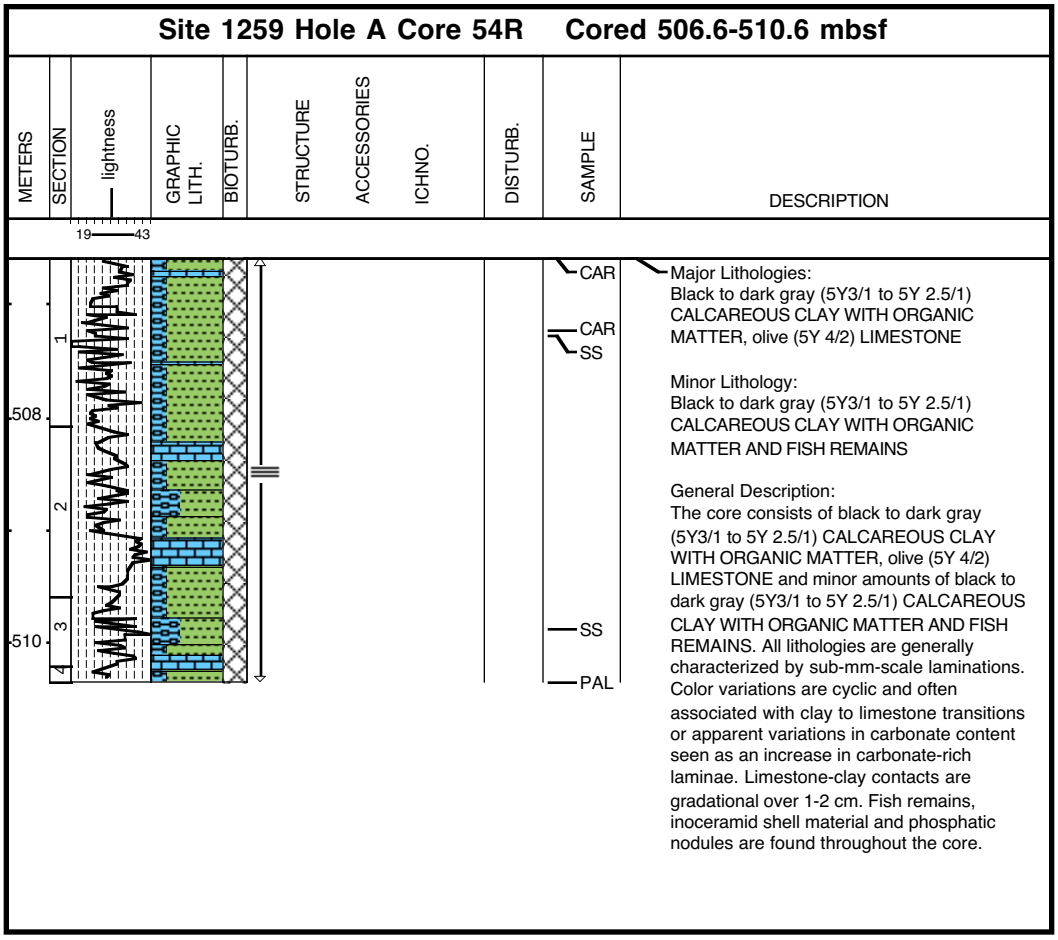
Core Photo


Site 1259 Hole A Core 52R Cored 487.3-497.0 mbsf
METERS
SECTION
lightness
23
58
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
488
490
492
494
1
2
3
4
5
6
7
CAR
IW
SS
PY
CAR
XRD
SS
SS
SS
SS
CAR
SS
CAR
PAL
Major Lithology:
Greenish gray to dark greenish gray (5GY 6/1 to 10Y 4/1), burrow mottled CLAYSTONE WITH QUARTZ AND NANNOFOSSILS; greenish gray (5GY 5/1 to 5Y 6/1), glauconite-rich CLAYSTONE WITH FISH DEBRIS, GLAUCONITE, AND QUARTZ; and dark gray to olive (5Y 3/1 to 5Y 4/3, 5Y 5/2) laminated CALCAREOUS CLAYSTONE
General Description:
The core contains a gradual transition between dark, laminated claystones and pervasively burrowed (dominantly Zoophycos) chalk with common pyrite. Sections 5, 12 cm through Section CC contain a dark laminated facies that contains rare individual burrows and abundant light calcareous grains. Glauconite-rich intervals are present in Section 6, 60 – 70 cm and Section 5, 55 – 63 cm. Coarser material is present in Section CC, 12 – 21 cm and Section 6, 120 – 130 cm. An interval with heavy bioturbation is present in Section 5, 62 – 70 cm. Section 4, 72 cm – Section 5, 12 cm contains a glauconite-rich interval with a subhorizontal fabric that seems to be controlled by the orientation of burrows rather than primary depositional layering. The glauconite-rich lithology grades upwards over 5–10 cm into a heavily to pervasively bioturbated interval (Section 1 , 0 cm to Section 4, 72 cm) that is dominated by Zoophycos and Planolites and contains common pyrite. This interval exhibits light-dark alternations and primary laminations are partially preserved in the darker intervals.
80 - 85 cm- glauconite-rich interval
disseminated pyrite throughout

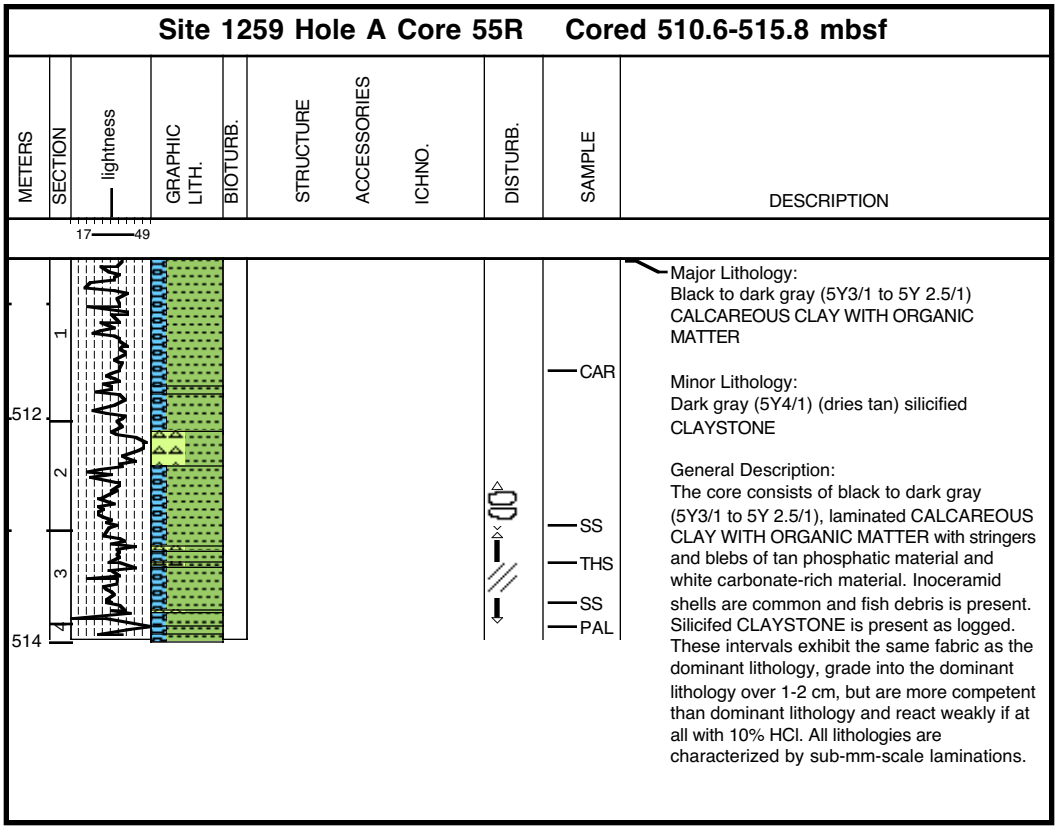
Core Photo


Site 1259 Hole A Core 53R Cored 497.0-506.6 mbsf
METERS
SECTION
lightness
20
44
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
498
500
1
2
3
4
SS
CAR
SS
CAR
PAL
Major Lithologies:
Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER, olive (5Y 4/2) LIMESTONE
Minor Lithology:
Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER AND FISH REMAINS
General Description:
The core consists of Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER, olive (5Y 4/2) LIMESTONE and minor amounts of Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER AND FISH REMAINS. All lithologies are generally characterized by sub mm-scale laminations. Color variations are cyclic and often associated with clay to limestone transitions or apparent variations in carbonate content seen as an increase in carbonate rich laminae. Limestone-clay contacts are gradational over 1-2 cm. Section 1, 1-80 cm has ~10cm intervals of coarse breccia intervals and are interpreted to be the distal ends of debris flows. Microfaults are also seen throughout the core, but are most common in Section 1. Fish remains, inoceramid shell material and phosphatic nodules are found throughout the core.

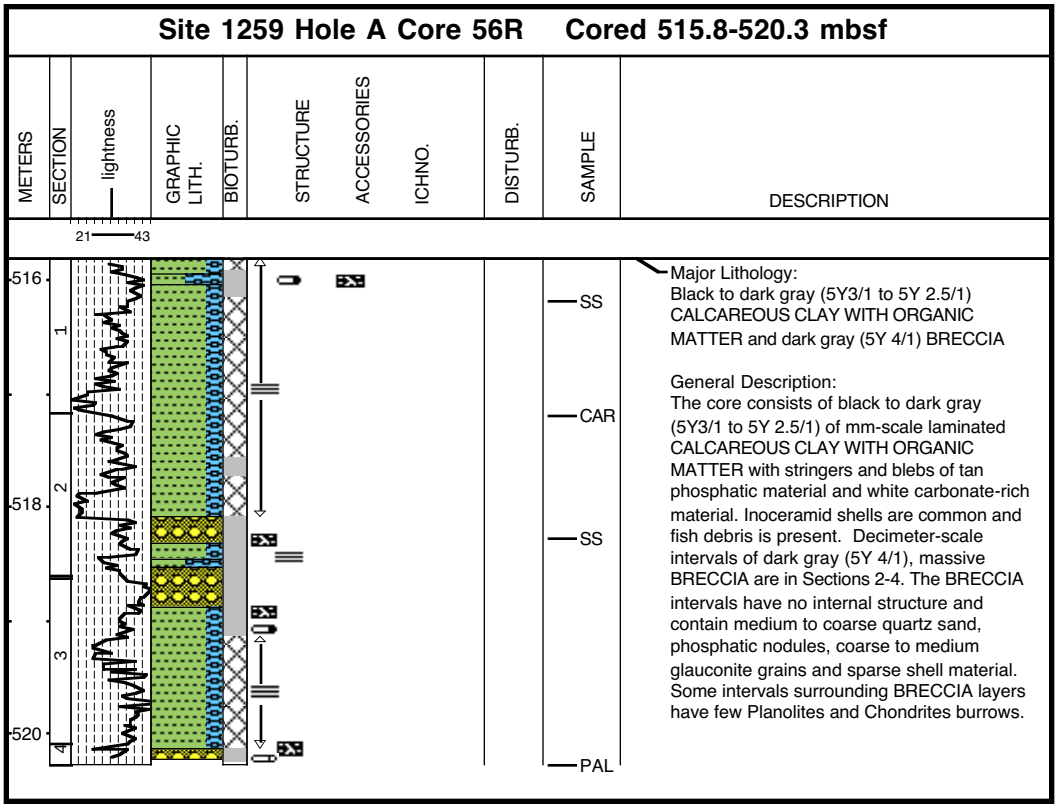
Core Photo


Site 1259 Hole A Core 54R Cored 506.6-510.6 mbsf
METERS
SECTION
lightness
19
43
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
508
510
1
2
3
4
CAR
CAR
SS
SS
PAL
Major Lithologies:
Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER, olive (5Y 4/2) LIMESTONE
Minor Lithology:
Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER AND FISH REMAINS
General Description:
The core consists of black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER, olive (5Y 4/2) LIMESTONE and minor amounts of black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER AND FISH REMAINS. All lithologies are generally characterized by sub-mm-scale laminations. Color variations are cyclic and often associated with clay to limestone transitions or apparent variations in carbonate content seen as an increase in carbonate-rich laminae. Limestone-clay contacts are gradational over 1-2 cm. Fish remains, inoceramid shell material and phosphatic nodules are found throughout the core.

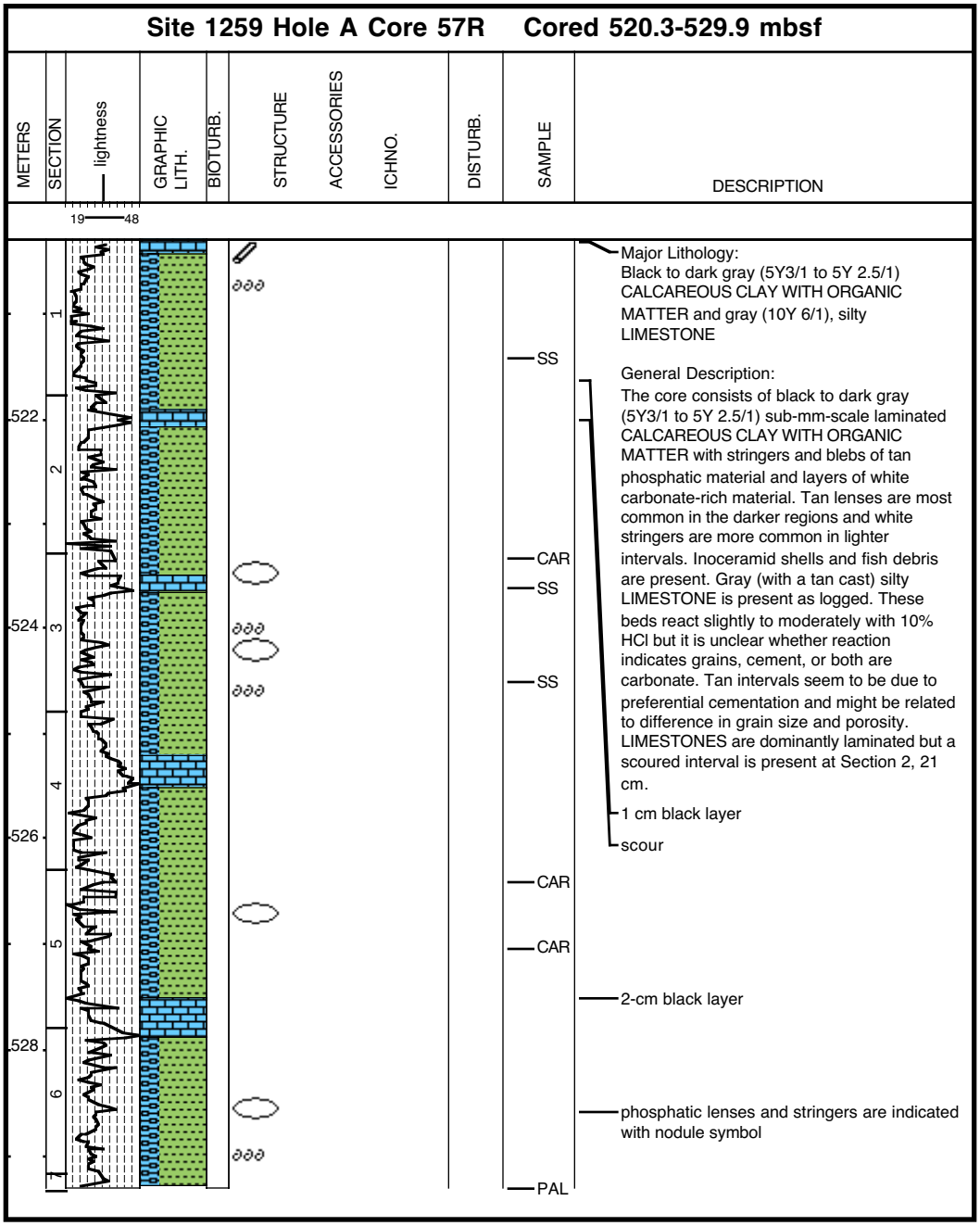
Core Photo


Site 1259 Hole A Core 55R Cored 510.6-515.8 mbsf
METERS
SECTION
lightness
17
49
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
512
514
1
2
3
4
CAR
SS
THS
SS
PAL
Major Lithology:
Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER
Minor Lithology:
Dark gray (5Y4/1) (dries tan) silicified CLAYSTONE
General Description:
The core consists of black to dark gray (5Y3/1 to 5Y 2.5/1), laminated CALCAREOUS CLAY WITH ORGANIC MATTER with stringers and blebs of tan phosphatic material and white carbonate-rich material. Inoceramid shells are common and fish debris is present. Silicifed CLAYSTONE is present as logged. These intervals exhibit the same fabric as the dominant lithology, grade into the dominant lithology over 1-2 cm, but are more competent than dominant lithology and react weakly if at all with 10% HCl. All lithologies are characterized by sub-mm-scale laminations.

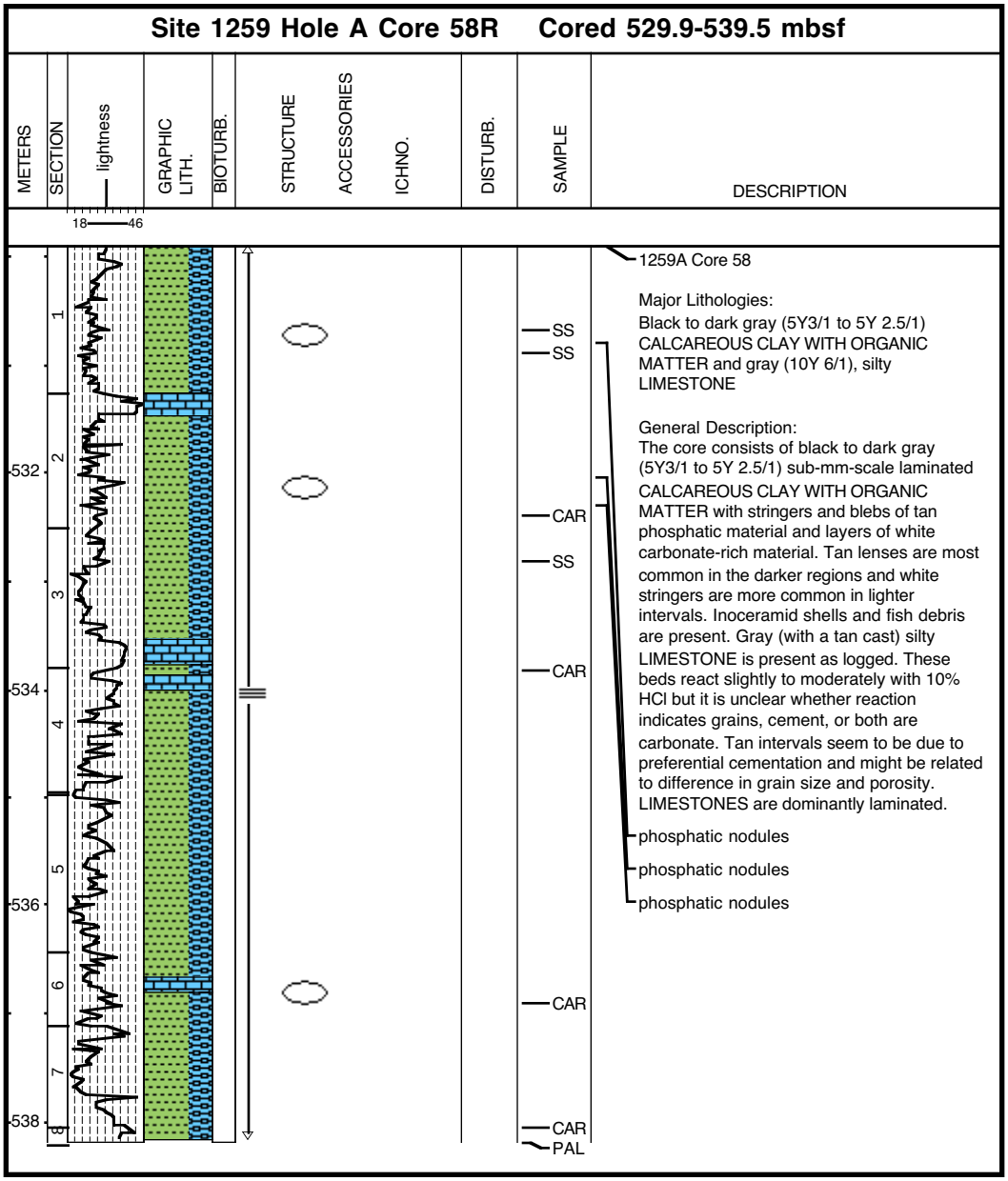
Core Photo


Site 1259 Hole A Core 56R Cored 515.8-520.3 mbsf
METERS
SECTION
lightness
21
43
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
516
518
520
1
2
3
4
SS
CAR
SS
PAL
Major Lithology:
Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER and dark gray (5Y 4/1) BRECCIA
General Description:
The core consists of black to dark gray (5Y3/1 to 5Y 2.5/1) of mm-scale laminated CALCAREOUS CLAY WITH ORGANIC MATTER with stringers and blebs of tan phosphatic material and white carbonate-rich material. Inoceramid shells are common and fish debris is present. Decimeter-scale intervals of dark gray (5Y 4/1), massive BRECCIA are in Sections 2-4. The BRECCIA intervals have no internal structure and contain medium to coarse quartz sand, phosphatic nodules, coarse to medium glauconite grains and sparse shell material. Some intervals surrounding BRECCIA layers have few Planolites and Chondrites burrows.

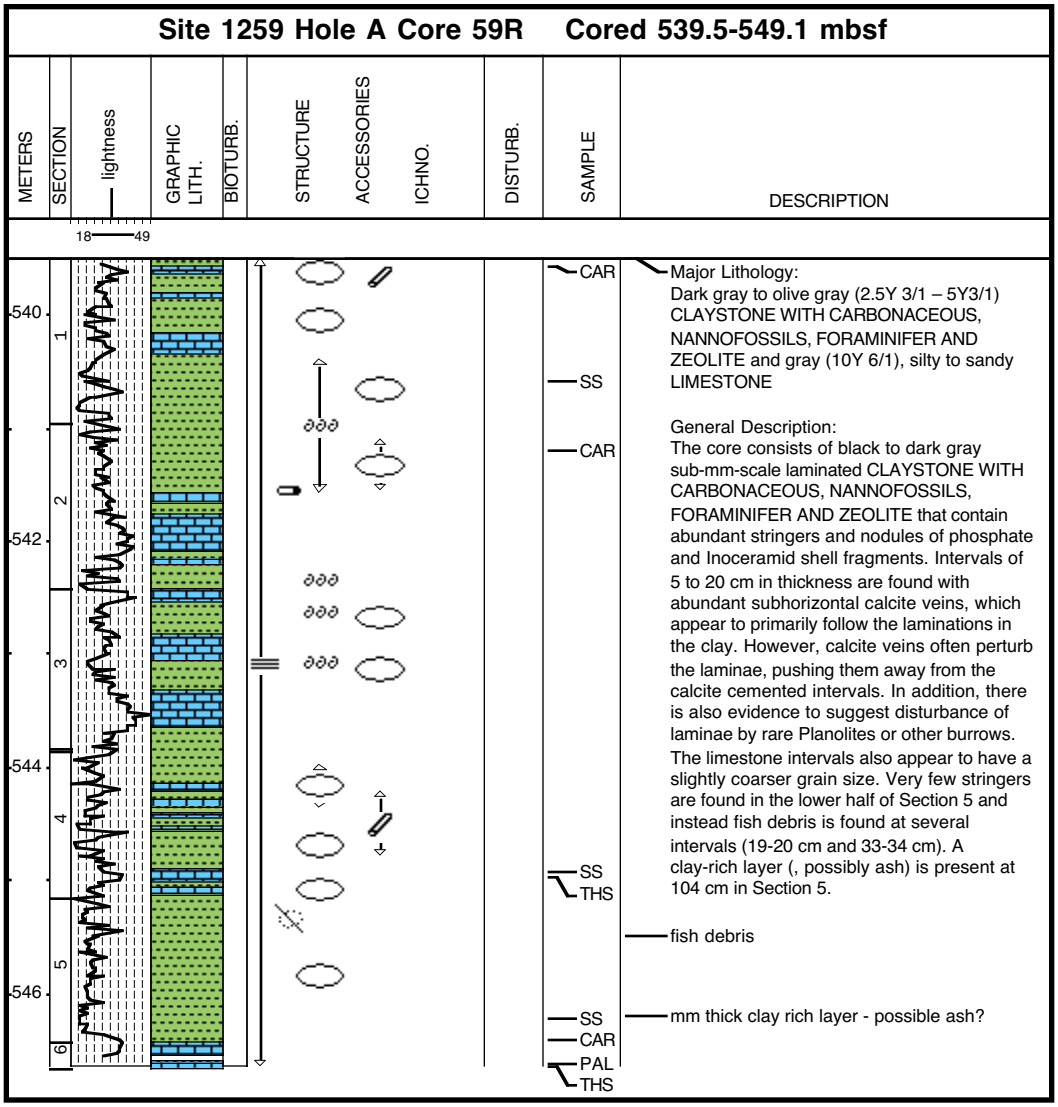
Core Photo


Site 1259 Hole A Core 57R Cored 520.3-529.9 mbsf
METERS
SECTION
lightness
19
48
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
522
524
526
528
1
2
3
4
5
6
7
SS
CAR
SS
SS
CAR
CAR
PAL
Major Lithology:
Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER and gray (10Y 6/1), silty LIMESTONE
General Description:
The core consists of black to dark gray (5Y3/1 to 5Y 2.5/1) sub-mm-scale laminated CALCAREOUS CLAY WITH ORGANIC MATTER with stringers and blebs of tan phosphatic material and layers of white carbonate-rich material. Tan lenses are most common in the darker regions and white stringers are more common in lighter intervals. Inoceramid shells and fish debris are present. Gray (with a tan cast) silty LIMESTONE is present as logged. These beds react slightly to moderately with 10% HCl but it is unclear whether reaction indicates grains, cement, or both are carbonate. Tan intervals seem to be due to preferential cementation and might be related to difference in grain size and porosity. LIMESTONES are dominantly laminated but a scoured interval is present at Section 2, 21 cm.
1 cm black layer
scour
2-cm black layer
phosphatic lenses and stringers are indicated with nodule symbol

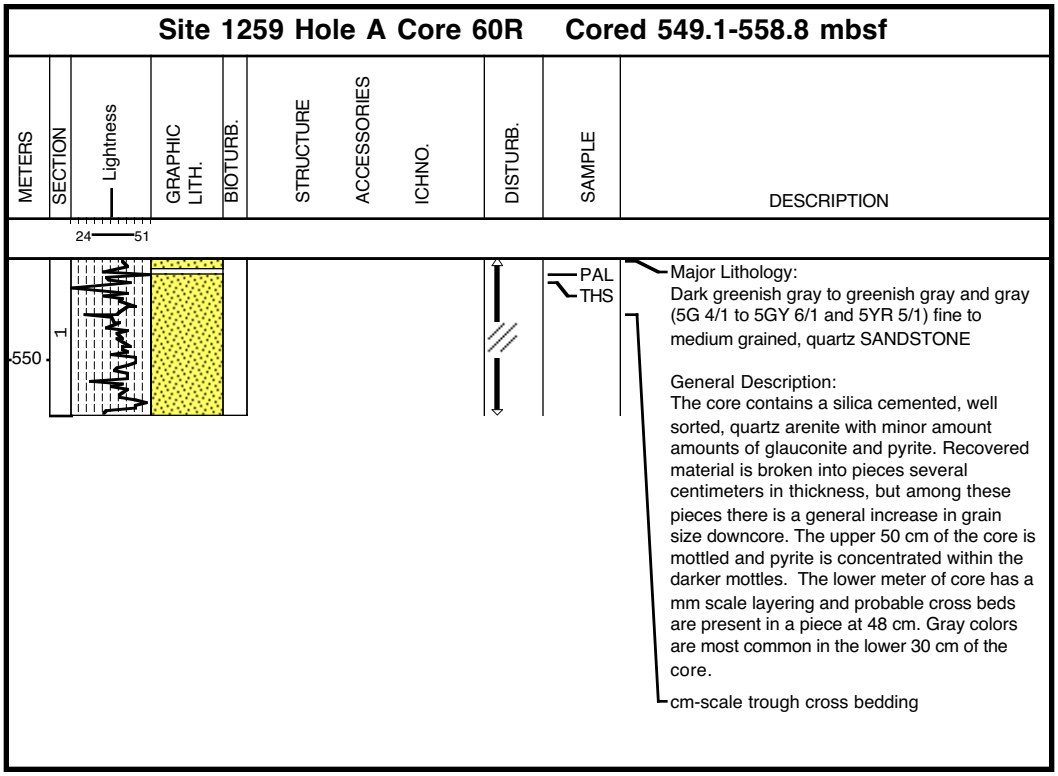
Core Photo


Site 1259 Hole A Core 58R Cored 529.9-539.5 mbsf
METERS
SECTION
lightness
18
46
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
532
534
536
538
1
2
3
4
5
6
7
CC
SS
SS
CAR
SS
CAR
CAR
CAR
PAL
1259A Core 58
Major Lithologies:
Black to dark gray (5Y3/1 to 5Y 2.5/1) CALCAREOUS CLAY WITH ORGANIC MATTER and gray (10Y 6/1), silty LIMESTONE
General Description:
The core consists of black to dark gray (5Y3/1 to 5Y 2.5/1) sub-mm-scale laminated CALCAREOUS CLAY WITH ORGANIC MATTER with stringers and blebs of tan phosphatic material and layers of white carbonate-rich material. Tan lenses are most common in the darker regions and white stringers are more common in lighter intervals. Inoceramid shells and fish debris are present. Gray (with a tan cast) silty LIMESTONE is present as logged. These beds react slightly to moderately with 10% HCl but it is unclear whether reaction indicates grains, cement, or both are carbonate. Tan intervals seem to be due to preferential cementation and might be related to difference in grain size and porosity. LIMESTONES are dominantly laminated.
phosphatic nodules
phosphatic nodules
phosphatic nodules

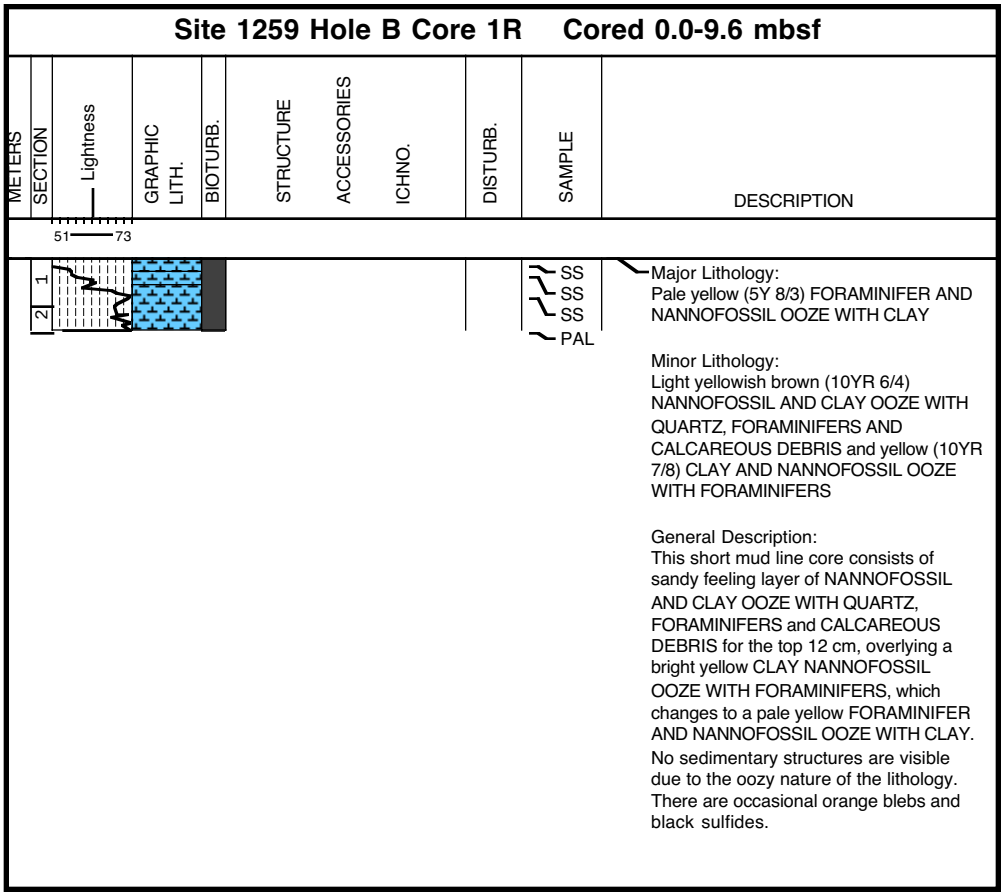
Core Photo


Site 1259 Hole A Core 59R Cored 539.5-549.1 mbsf
METERS
SECTION
lightness
18
49
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
540
542
544
546
1
2
3
4
5
6
CAR
SS
CAR
SS
THS
SS
CAR
PAL
THS
Major Lithology:
Dark gray to olive gray (2.5Y 3/1 – 5Y3/1) CLAYSTONE WITH CARBONACEOUS, NANNOFOSSILS, FORAMINIFER AND ZEOLITE and gray (10Y 6/1), silty to sandy LIMESTONE
General Description:
The core consists of black to dark gray sub-mm-scale laminated CLAYSTONE WITH CARBONACEOUS, NANNOFOSSILS, FORAMINIFER AND ZEOLITE that contain abundant stringers and nodules of phosphate and Inoceramid shell fragments. Intervals of 5 to 20 cm in thickness are found with abundant subhorizontal calcite veins, which appear to primarily follow the laminations in the clay. However, calcite veins often perturb the laminae, pushing them away from the calcite cemented intervals. In addition, there is also evidence to suggest disturbance of laminae by rare Planolites or other burrows. The limestone intervals also appear to have a slightly coarser grain size. Very few stringers are found in the lower half of Section 5 and instead fish debris is found at several intervals (19-20 cm and 33-34 cm). A clay-rich layer (, possibly ash) is present at 104 cm in Section 5.
fish debris
mm thick clay rich layer - possible ash?

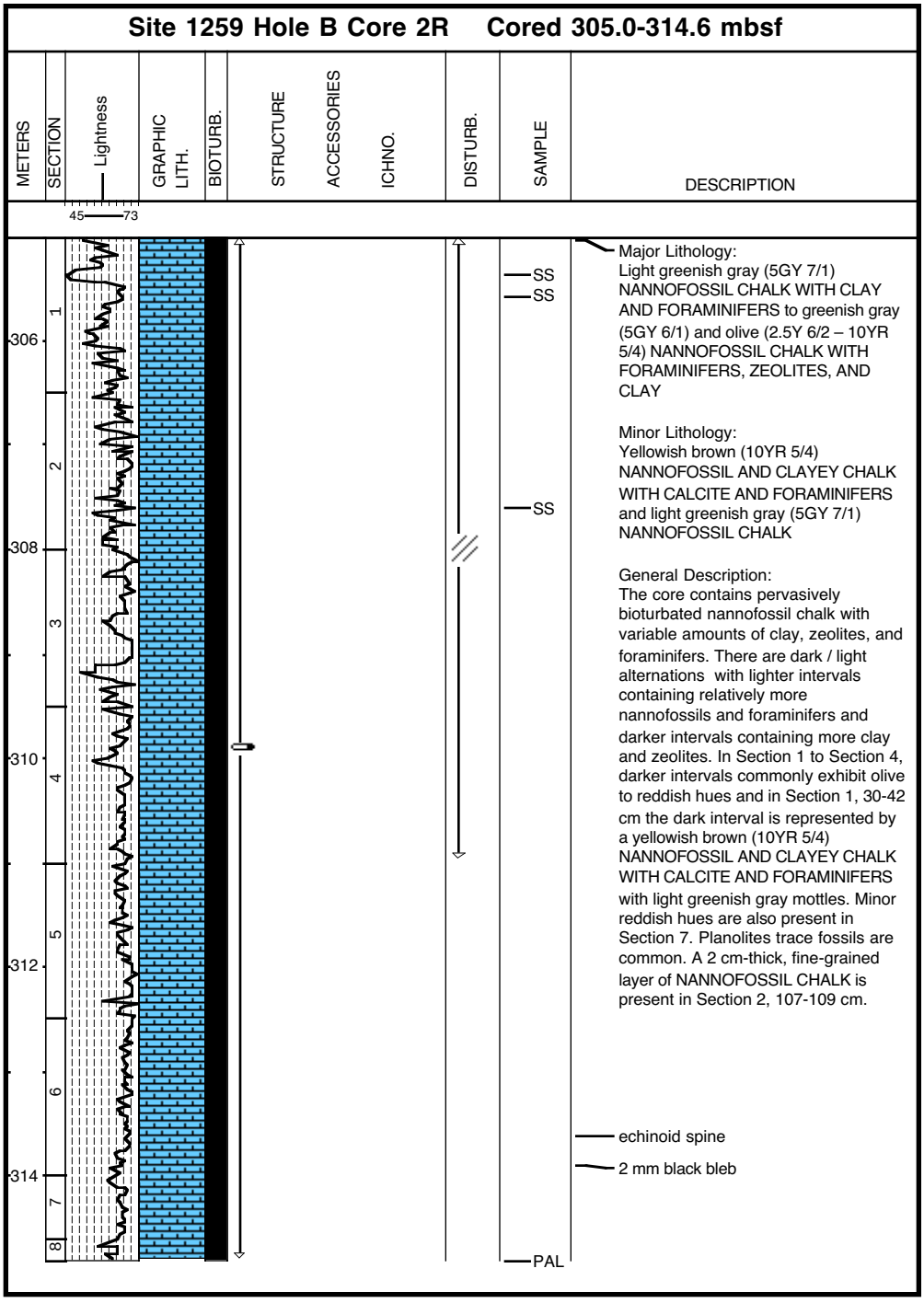
Core Photo


Site 1259 Hole A Core 60R Cored 549.1-558.8 mbsf
METERS
SECTION
Lightness
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
24
51
550
1
PAL
THS
Major Lithology:
Dark greenish gray to greenish gray and gray (5G 4/1 to 5GY 6/1 and 5YR 5/1) fine to medium grained, quartz SANDSTONE
General Description:
The core contains a silica cemented, well sorted, quartz arenite with minor amount amounts of glauconite and pyrite. Recovered material is broken into pieces several centimeters in thickness, but among these pieces there is a general increase in grain size downcore. The upper 50 cm of the core is mottled and pyrite is concentrated within the darker mottles. The lower meter of core has a mm scale layering and probable cross beds are present in a piece at 48 cm. Gray colors are most common in the lower 30 cm of the core.
cm-scale trough cross bedding

Core Photo

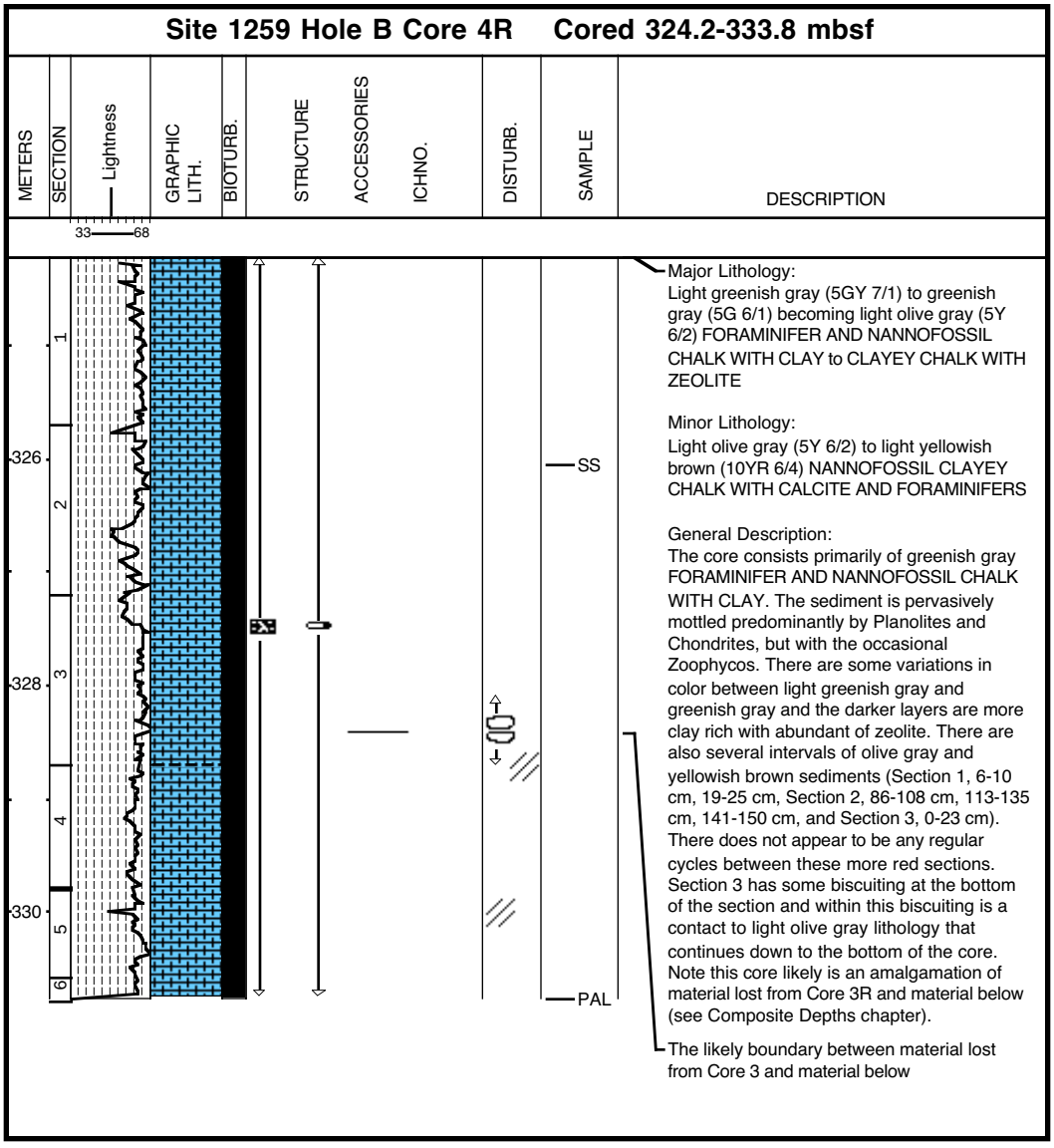

Site 1259 Hole B Core 1R Cored 0.0-9.6 mbsf
METERS
SECTION
Lightness
51
73
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
1
2
SS
SS
SS
PAL
Major Lithology:
Pale yellow (5Y 8/3) FORAMINIFER AND NANNOFOSSIL OOZE WITH CLAY
Minor Lithology:
Light yellowish brown (10YR 6/4) NANNOFOSSIL AND CLAY OOZE WITH QUARTZ, FORAMINIFERS AND CALCAREOUS DEBRIS and yellow (10YR 7/8) CLAY AND NANNOFOSSIL OOZE WITH FORAMINIFERS
General Description:
This short mud line core consists of sandy feeling layer of NANNOFOSSIL AND CLAY OOZE WITH QUARTZ, FORAMINIFERS and CALCAREOUS DEBRIS for the top 12 cm, overlying a bright yellow CLAY NANNOFOSSIL OOZE WITH FORAMINIFERS, which changes to a pale yellow FORAMINIFER AND NANNOFOSSIL OOZE WITH CLAY.
No sedimentary structures are visible due to the oozy nature of the lithology.
There are occasional orange blebs and black sulfides.

Core Photo

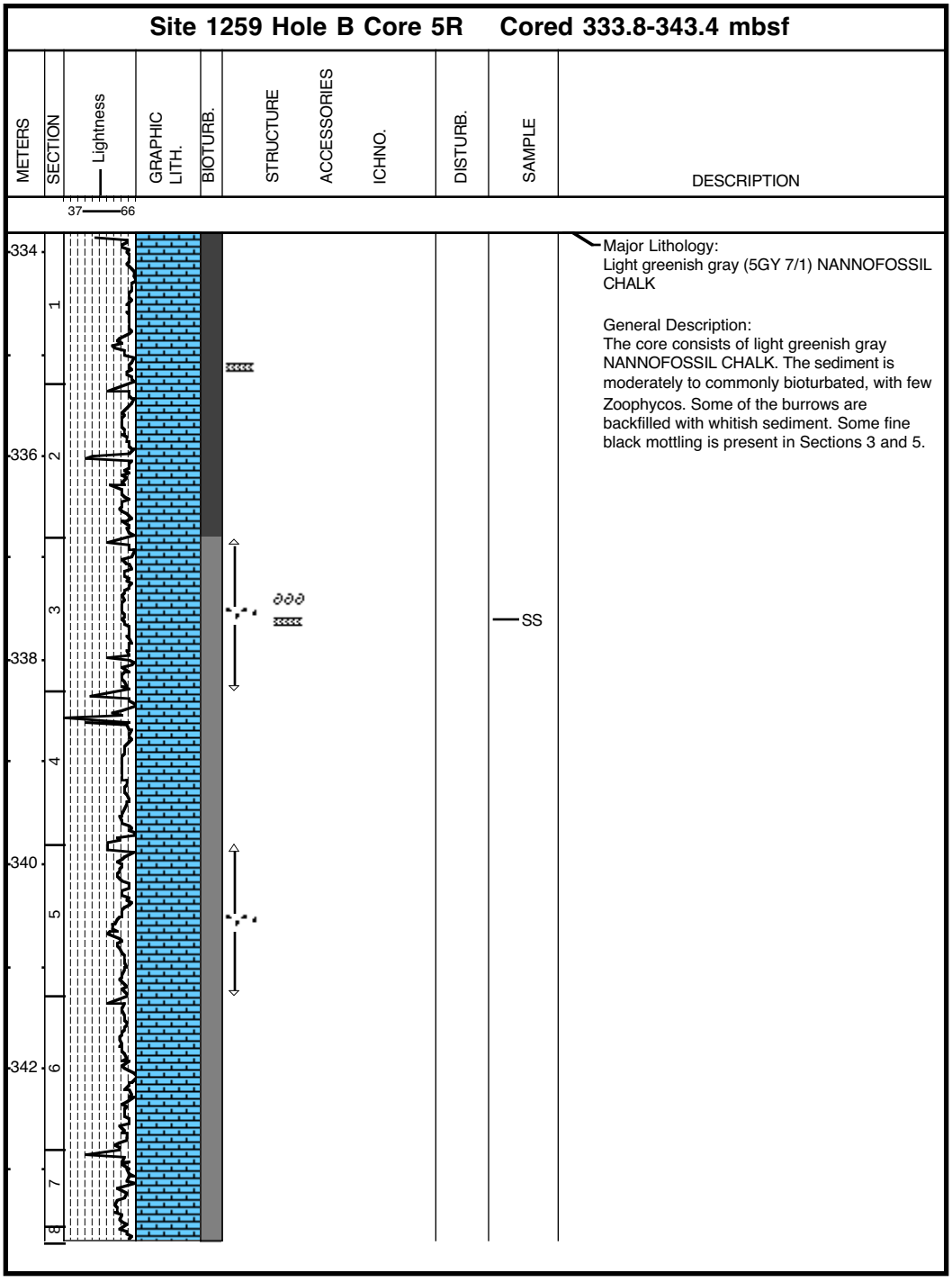


1259B-3R NO RECOVERY

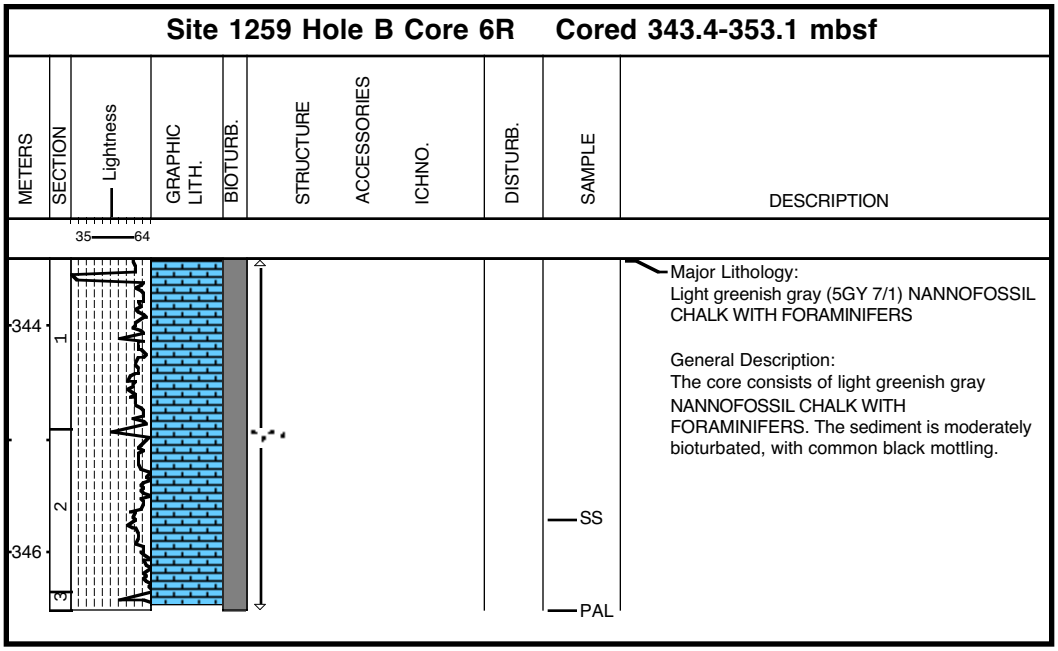
Core Photo


Site 1259 Hole B Core 4R Cored 324.2-333.8 mbsf
METERS
SECTION
Lightness
33
68
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
326
328
330
1
2
3
4
5
6
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to greenish gray (5G 6/1) becoming light olive gray (5Y 6/2) FORAMINIFER AND NANNOFOSSIL CHALK WITH CLAY to CLAYEY CHALK WITH ZEOLITE
Minor Lithology:
Light olive gray (5Y 6/2) to light yellowish brown (10YR 6/4) NANNOFOSSIL CLAYEY CHALK WITH CALCITE AND FORAMINIFERS
General Description:
The core consists primarily of greenish gray FORAMINIFER AND NANNOFOSSIL CHALK WITH CLAY. The sediment is pervasively mottled predominantly by Planolites and Chondrites, but with the occasional Zoophycos. There are some variations in color between light greenish gray and greenish gray and the darker layers are more clay rich with abundant of zeolite. There are also several intervals of olive gray and yellowish brown sediments (Section 1, 6-10 cm, 19-25 cm, Section 2, 86-108 cm, 113-135 cm, 141-150 cm, and Section 3, 0-23 cm). There does not appear to be any regular cycles between these more red sections. Section 3 has some biscuiting at the bottom of the section and within this biscuiting is a contact to light olive gray lithology that continues down to the bottom of the core. Note this core likely is an amalgamation of material lost from Core 3R and material below (see Composite Depths chapter).
The likely boundary between material lost from Core 3 and material below

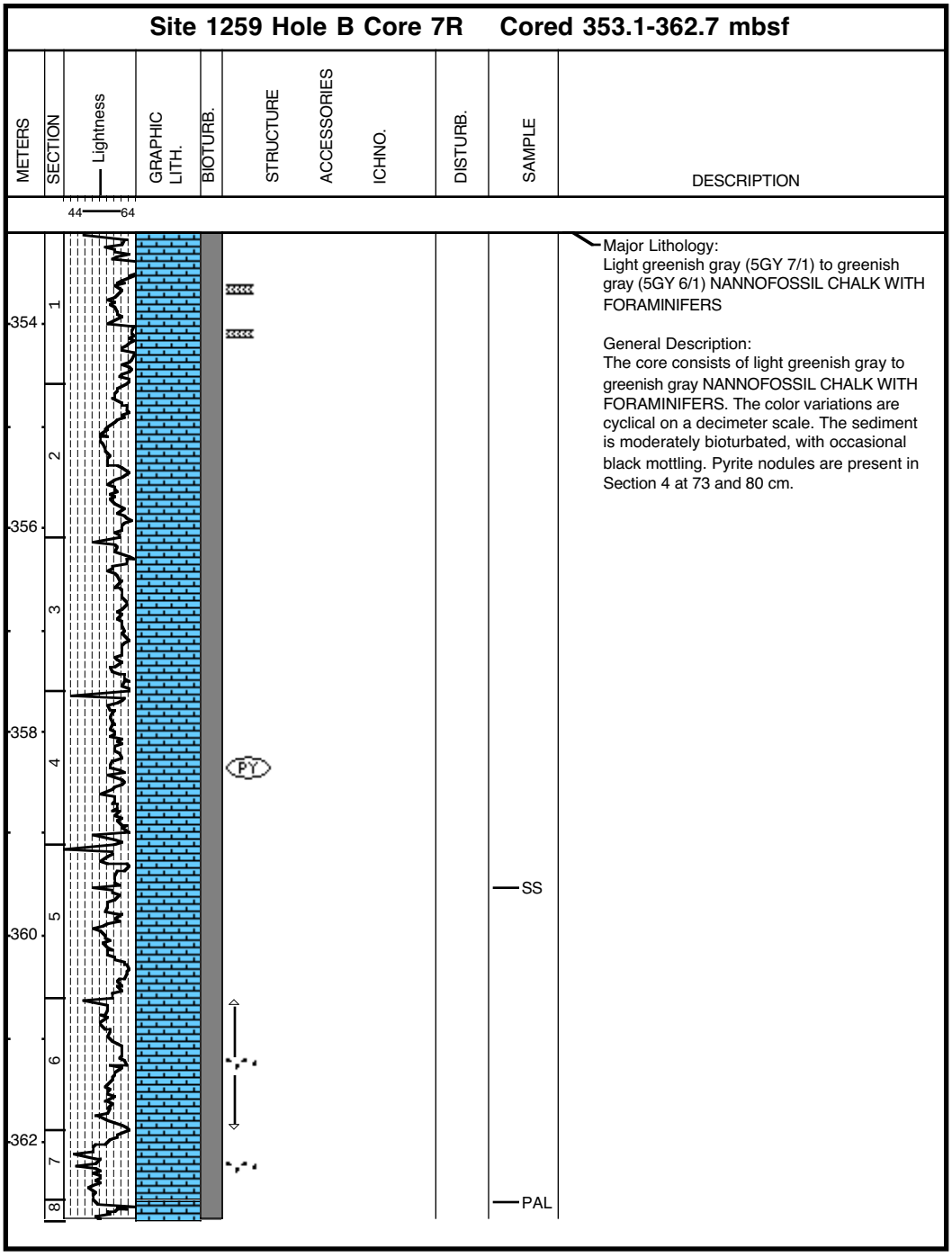
Core Photo


Site 1259 Hole B Core 5R Cored 333.8-343.4 mbsf
METERS
SECTION
Lightness
37
66
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
334
336
338
340
342
1
2
3
4
5
6
7
CC
SS
Major Lithology:
Light greenish gray (5GY 7/1) NANNOFOSSIL CHALK
General Description:
The core consists of light greenish gray NANNOFOSSIL CHALK. The sediment is moderately to commonly bioturbated, with few Zoophycos. Some of the burrows are backfilled with whitish sediment. Some fine black mottling is present in Sections 3 and 5.

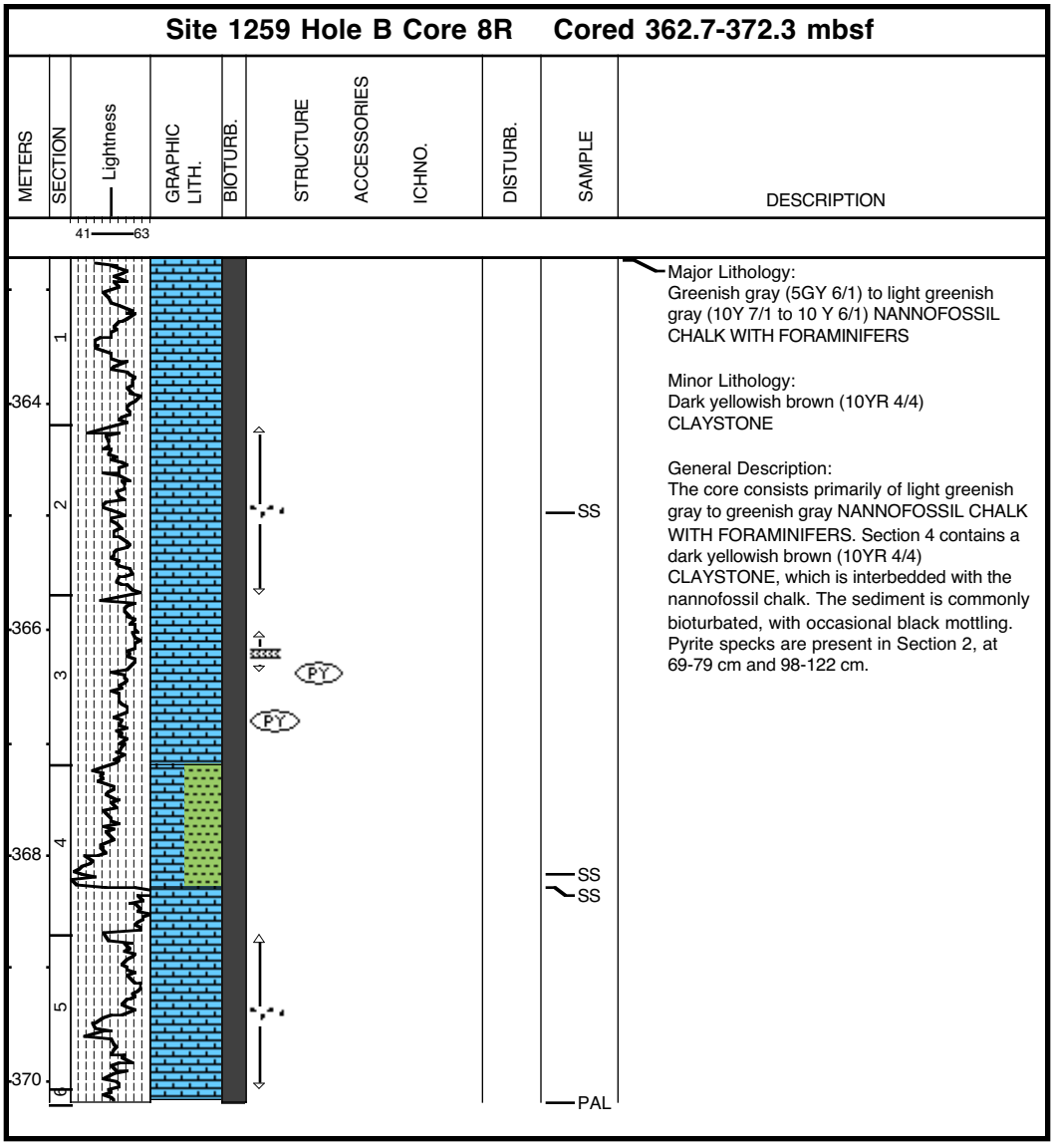
Core Photo


Site 1259 Hole B Core 6R Cored 343.4-353.1 mbsf
METERS
SECTION
Lightness
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
35
64
344
346
1
2
3
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) NANNOFOSSIL CHALK WITH FORAMINIFERS
General Description:
The core consists of light greenish gray NANNOFOSSIL CHALK WITH FORAMINIFERS. The sediment is moderately bioturbated, with common black mottling.

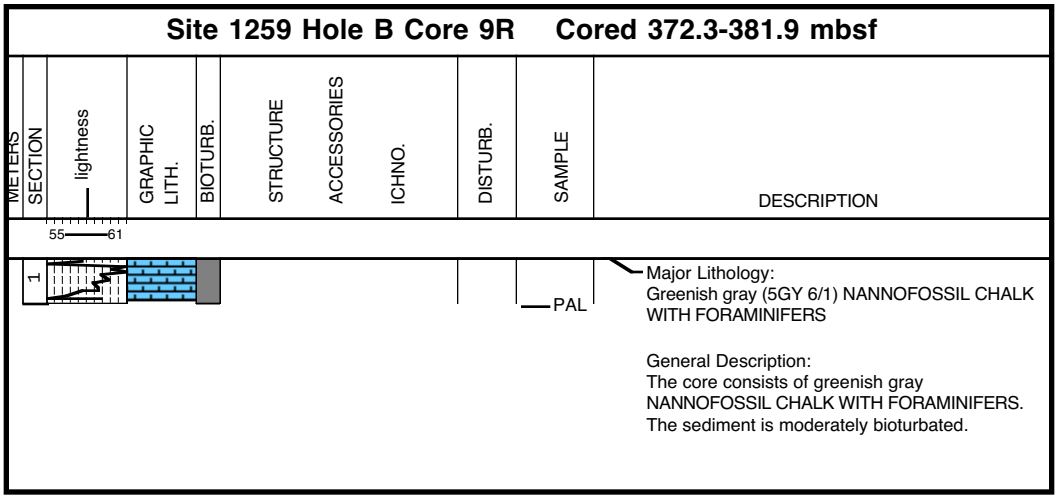
Core Photo


Site 1259 Hole B Core 7R Cored 353.1-362.7 mbsf
METERS
SECTION
Lightness
44
64
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
354
356
358
360
362
1
2
3
4
5
6
7
8
PY
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to greenish gray (5GY 6/1) NANNOFOSSIL CHALK WITH FORAMINIFERS
General Description:
The core consists of light greenish gray to greenish gray NANNOFOSSIL CHALK WITH FORAMINIFERS. The color variations are cyclical on a decimeter scale. The sediment is moderately bioturbated, with occasional black mottling. Pyrite nodules are present in Section 4 at 73 and 80 cm.

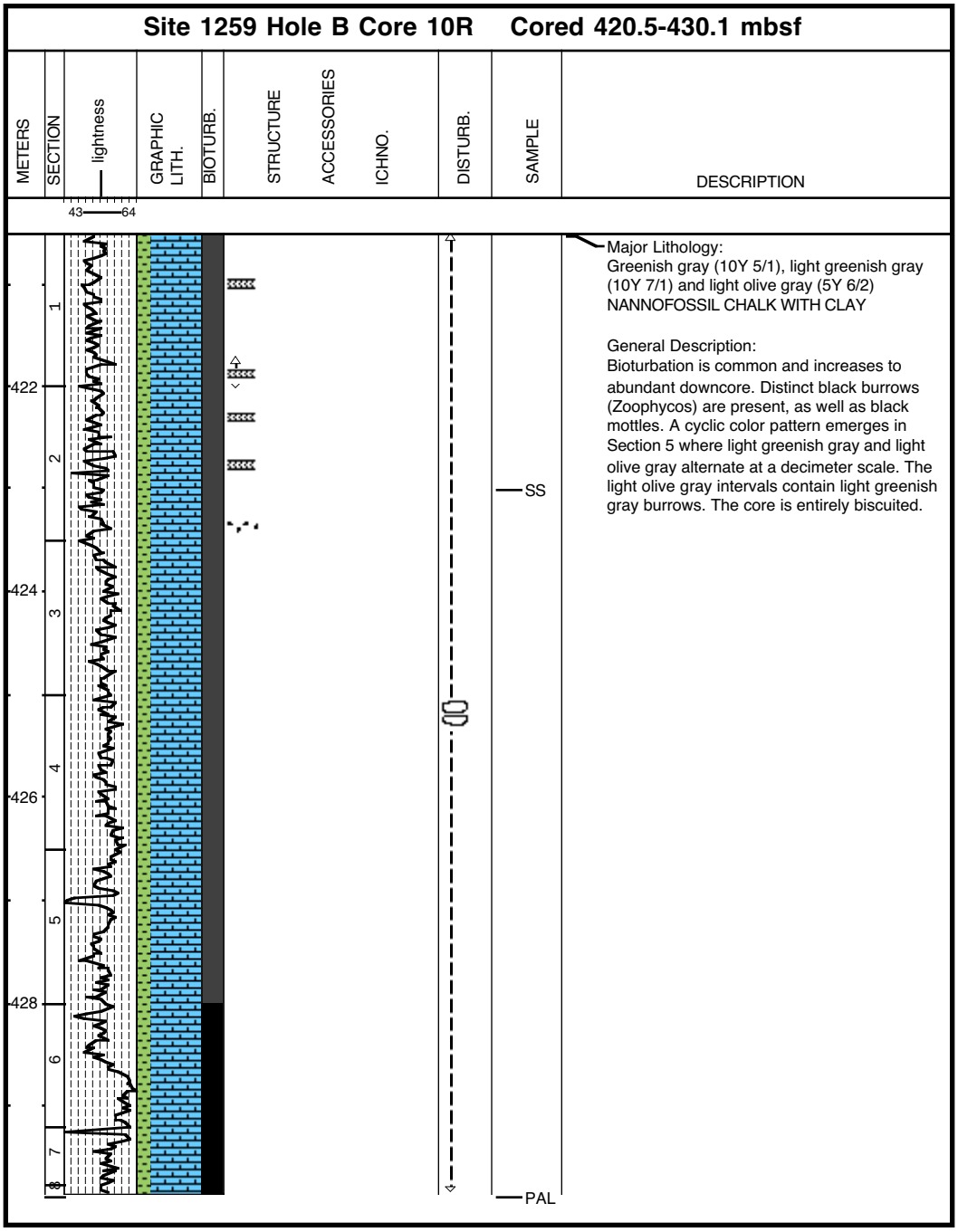
Core Photo


Site 1259 Hole B Core 8R Cored 362.7-372.3 mbsf
METERS
SECTION
Lightness
41
63
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
364
366
368
370
1
2
3
4
5
CC
PY
PY
SS
SS
SS
PAL
Major Lithology:
Greenish gray (5GY 6/1) to light greenish gray (10Y 7/1 to 10 Y 6/1) NANNOFOSSIL CHALK WITH FORAMINIFERS
Minor Lithology:
Dark yellowish brown (10YR 4/4) CLAYSTONE
General Description:
The core consists primarily of light greenish gray to greenish gray NANNOFOSSIL CHALK WITH FORAMINIFERS. Section 4 contains a dark yellowish brown (10YR 4/4) CLAYSTONE, which is interbedded with the nannofossil chalk. The sediment is commonly bioturbated, with occasional black mottling. Pyrite specks are present in Section 2, at 69-79 cm and 98-122 cm.

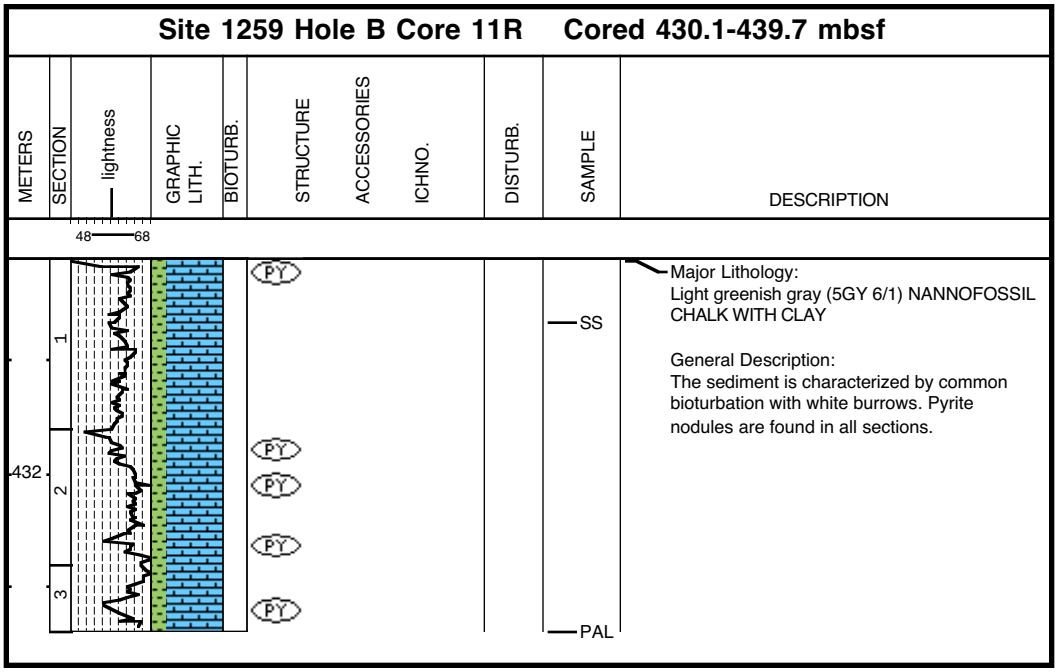
Core Photo


Site 1259 Hole B Core 9R Cored 372.3-381.9 mbsf
METERS
SECTION
lightness
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
55
61
1
PAL
Major Lithology:
Greenish gray (5GY 6/1) NANNOFOSSIL CHALK WITH FORAMINIFERS
General Description:
The core consists of greenish gray NANNOFOSSIL CHALK WITH FORAMINIFERS. The sediment is moderately bioturbated.

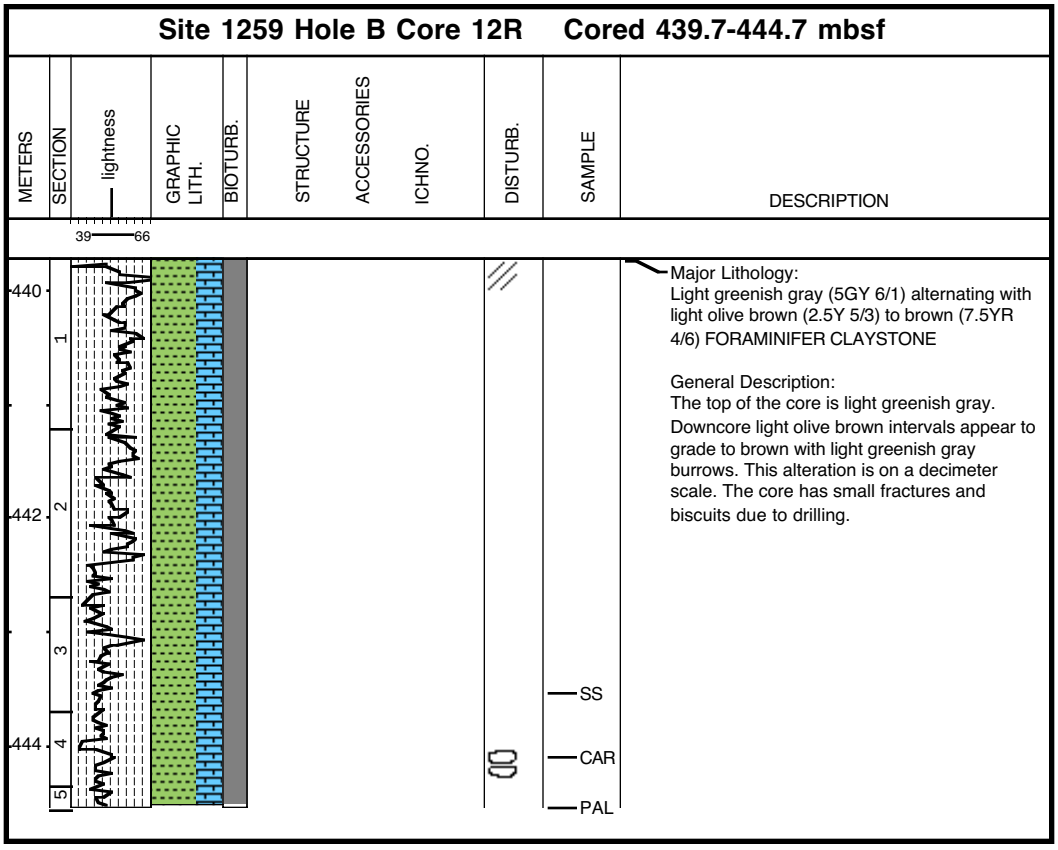
Core Photo


Site 1259 Hole B Core 10R Cored 420.5-430.1 mbsf
METERS
SECTION
lightness
43
64
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
422
424
426
428
1
2
3
4
5
6
7
SS
PAL
Major Lithology:
Greenish gray (10Y 5/1), light greenish gray (10Y 7/1) and light olive gray (5Y 6/2) NANNOFOSSIL CHALK WITH CLAY
General Description:
Bioturbation is common and increases to abundant downcore. Distinct black burrows (Zoophycos) are present, as well as black mottles. A cyclic color pattern emerges in Section 5 where light greenish gray and light olive gray alternate at a decimeter scale. The light olive gray intervals contain light greenish gray burrows. The core is entirely biscuited.

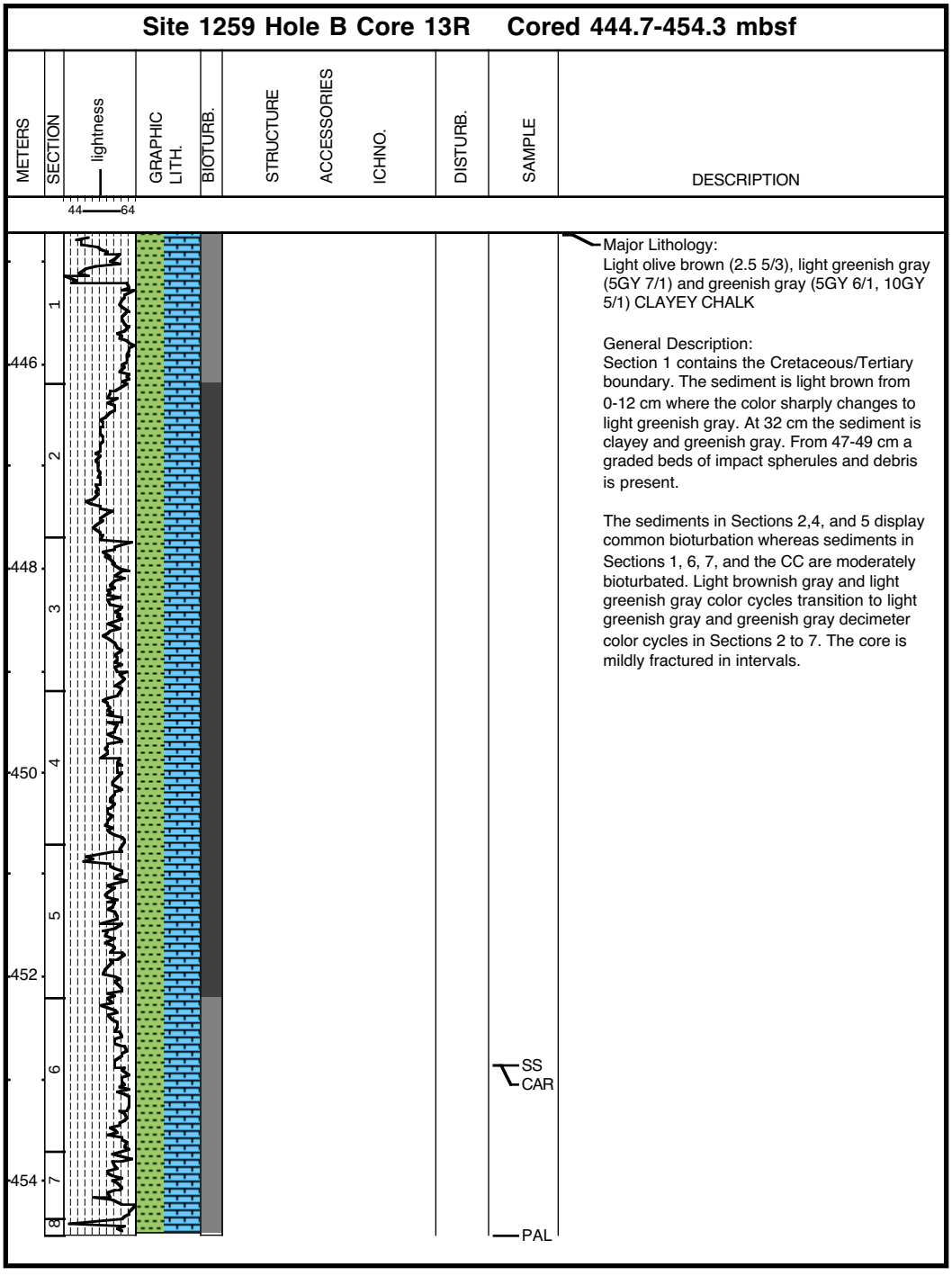
Core Photo


Site 1259 Hole B Core 11R Cored 430.1-439.7 mbsf
METERS
SECTION
lightness
48
68
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
1
2
3
432
PY
PY
PY
PY
SS
PAL
Major Lithology:
Light greenish gray (5GY 6/1) NANNOFOSSIL CHALK WITH CLAY
General Description:
The sediment is characterized by common bioturbation with white burrows. Pyrite nodules are found in all sections.

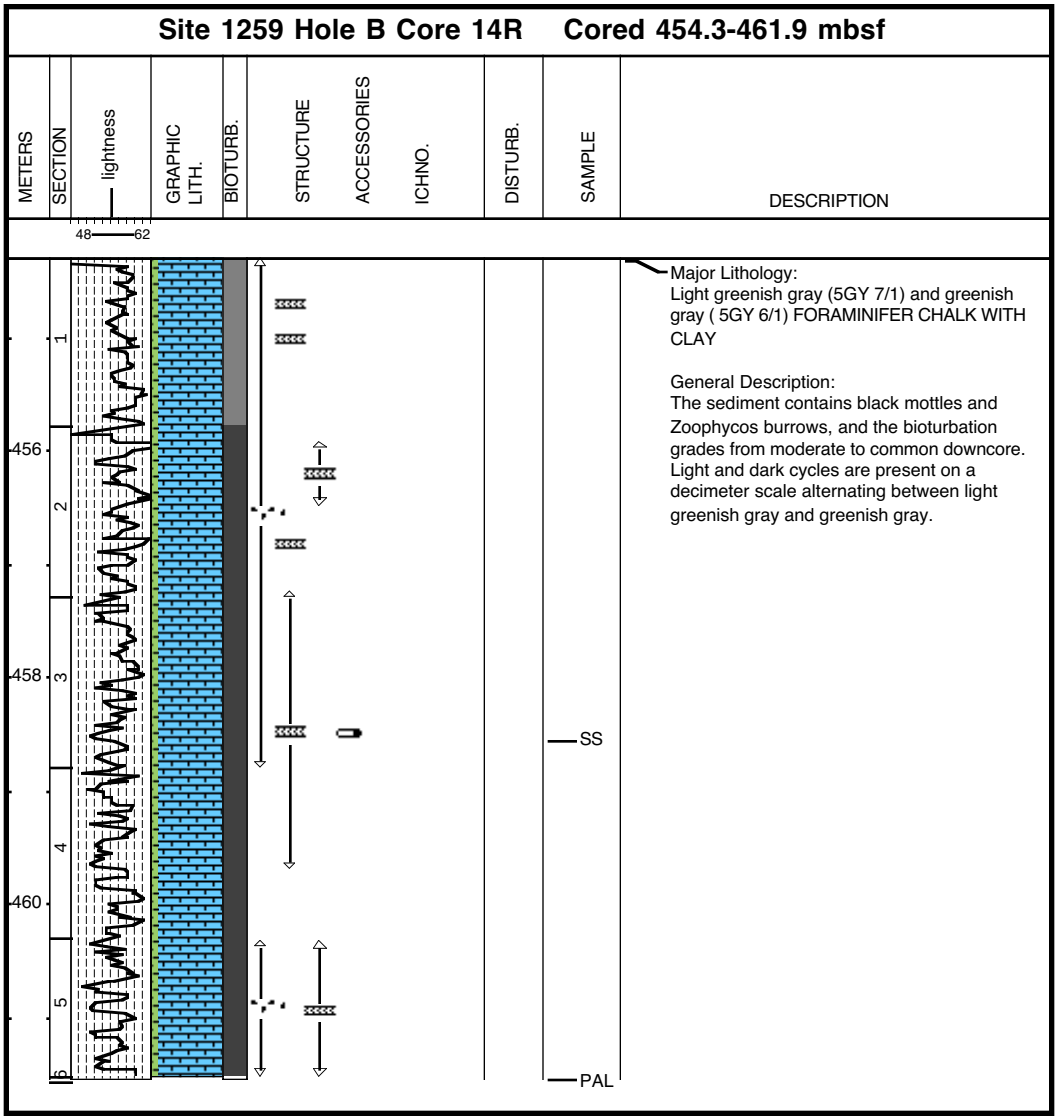
Core Photo


Site 1259 Hole B Core 12R Cored 439.7-444.7 mbsf
METERS
SECTION
lightness
39
66
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
440
442
444
1
2
3
4
5
SS
CAR
PAL
Major Lithology:
Light greenish gray (5GY 6/1) alternating with light olive brown (2.5Y 5/3) to brown (7.5YR 4/6) FORAMINIFER CLAYSTONE
General Description:
The top of the core is light greenish gray. Downcore light olive brown intervals appear to grade to brown with light greenish gray burrows. This alteration is on a decimeter scale. The core has small fractures and biscuits due to drilling.

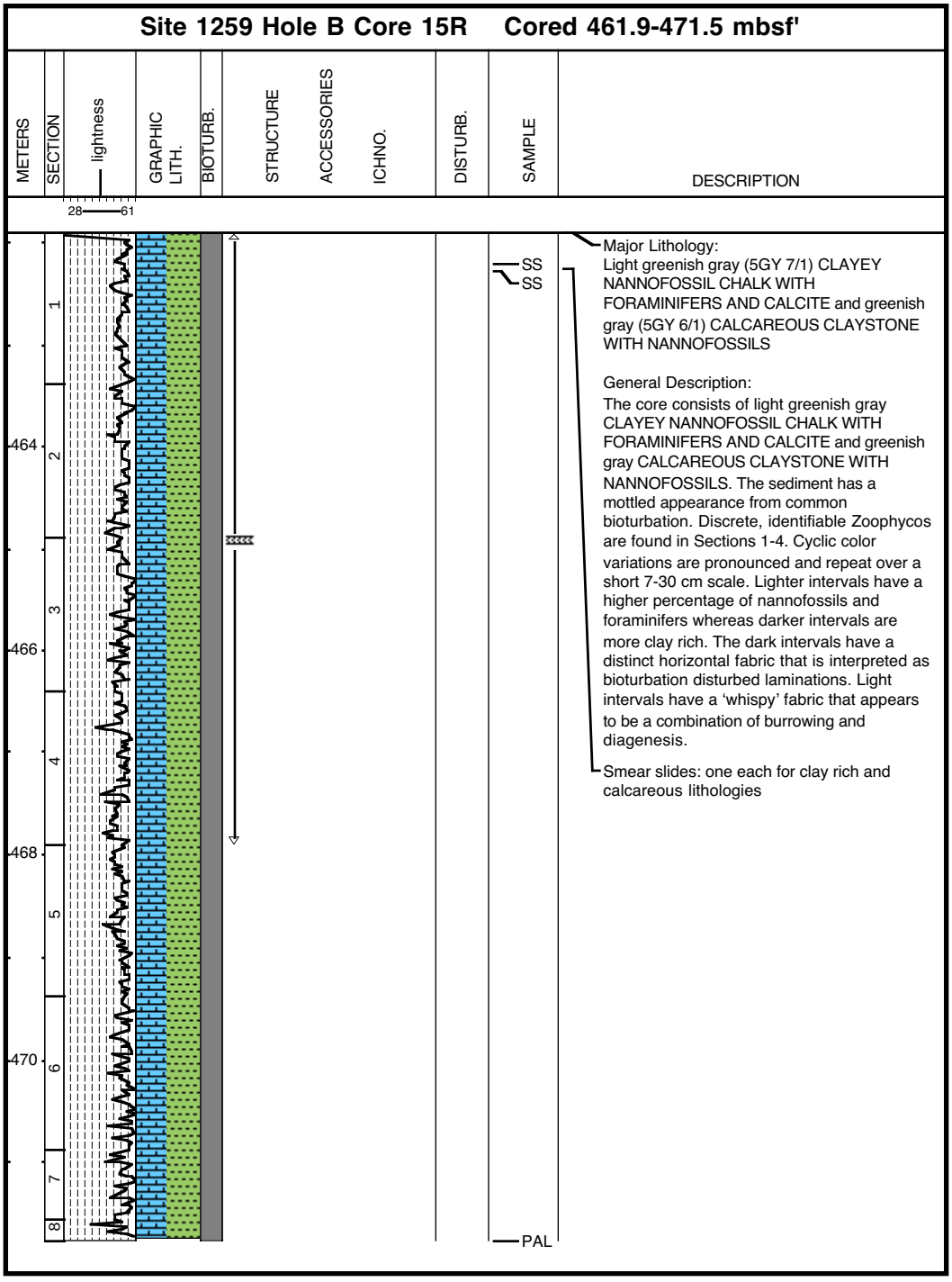
Core Photo


Site 1259 Hole B Core 13R Cored 444.7-454.3 mbsf
METERS
SECTION
lightness
44
64
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
446
448
450
452
454
1
2
3
4
5
6
7
8
SS
CAR
PAL
Major Lithology:
Light olive brown (2.5 5/3), light greenish gray (5GY 7/1) and greenish gray (5GY 6/1, 10GY 5/1) CLAYEY CHALK
General Description:
Section 1 contains the Cretaceous/Tertiary boundary. The sediment is light brown from 0-12 cm where the color sharply changes to light greenish gray. At 32 cm the sediment is clayey and greenish gray. From 47-49 cm a graded beds of impact spherules and debris is present.
The sediments in Sections 2,4, and 5 display common bioturbation whereas sediments in Sections 1, 6, 7, and the CC are moderately bioturbated. Light brownish gray and light greenish gray color cycles transition to light greenish gray and greenish gray decimeter color cycles in Sections 2 to 7. The core is mildly fractured in intervals.

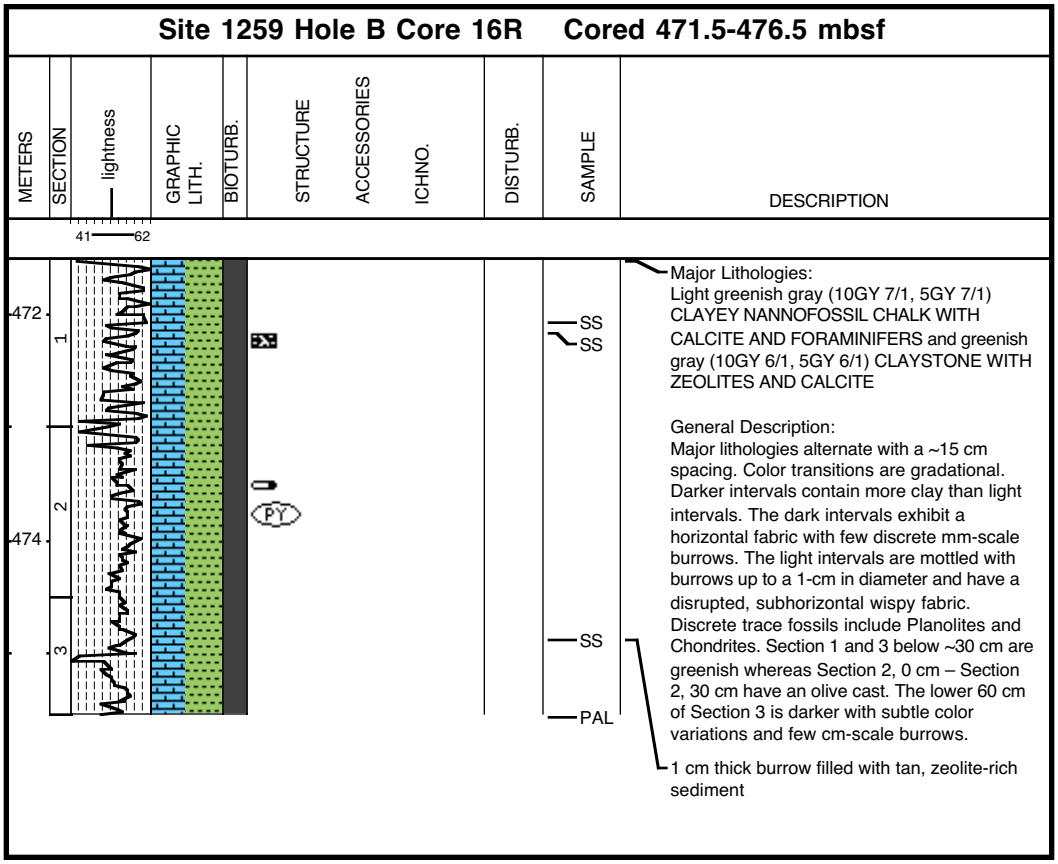
Core Photo


Site 1259 Hole B Core 14R Cored 454.3-461.9 mbsf
METERS
SECTION
lightness
48
62
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
456
458
460
1
2
3
4
5
6
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) and greenish gray (5GY 6/1) FORAMINIFER CHALK WITH CLAY
General Description:
The sediment contains black mottles and Zoophycos burrows, and the bioturbation grades from moderate to common downcore. Light and dark cycles are present on a decimeter scale alternating between light greenish gray and greenish gray.

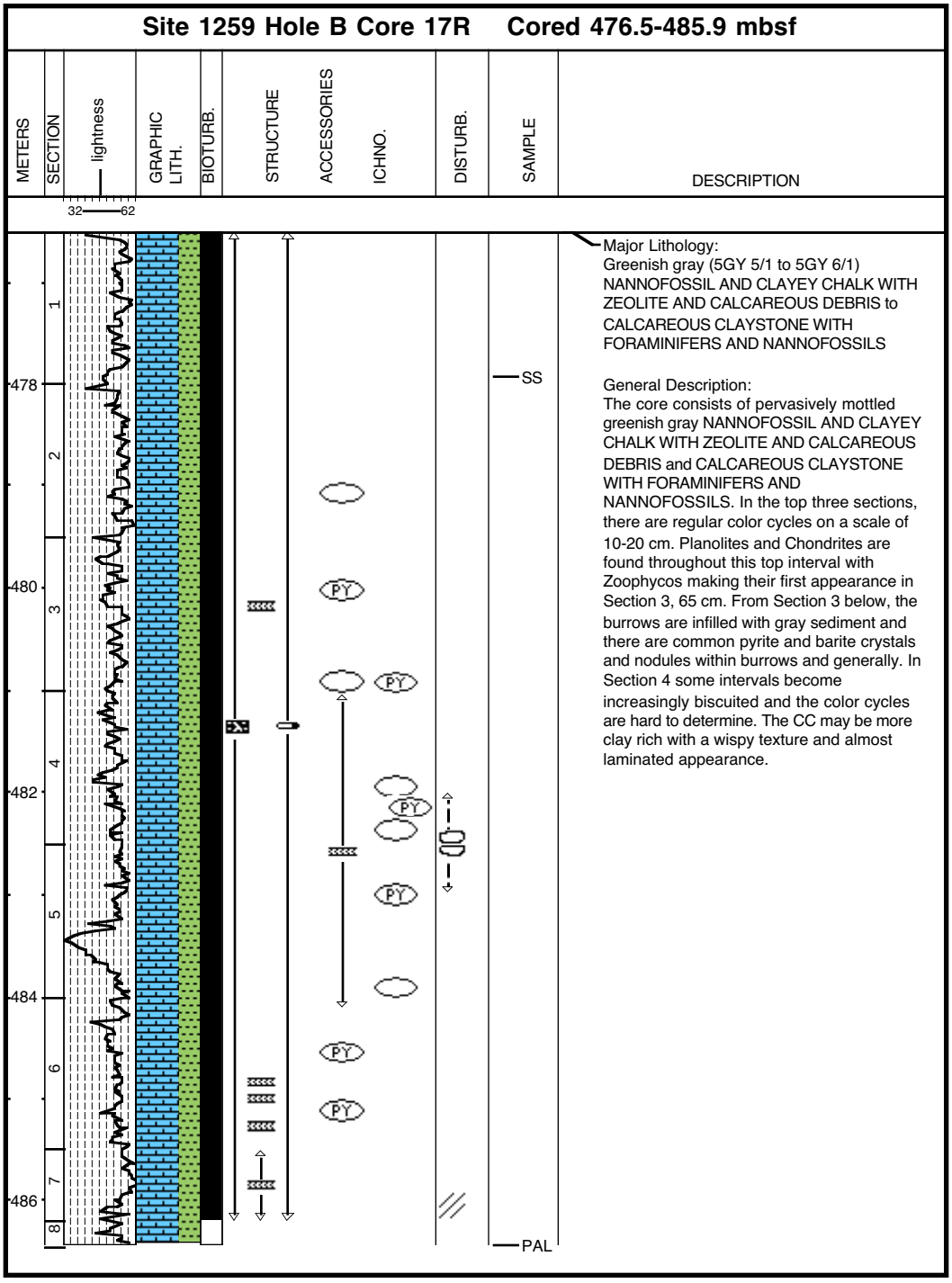
Core Photo


Site 1259 Hole B Core 15R Cored 461.9-471.5 mbsf'
METERS
SECTION
lightness
28
61
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
464
466
468
470
1
2
3
4
5
6
7
8
SS
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) CLAYEY NANNOFOSSIL CHALK WITH FORAMINIFERS AND CALCITE and greenish gray (5GY 6/1) CALCAREOUS CLAYSTONE WITH NANNOFOSSILS
General Description:
The core consists of light greenish gray CLAYEY NANNOFOSSIL CHALK WITH FORAMINIFERS AND CALCITE and greenish gray CALCAREOUS CLAYSTONE WITH NANNOFOSSILS. The sediment has a mottled appearance from common bioturbation. Discrete, identifiable Zoophycos are found in Sections 1-4. Cyclic color variations are pronounced and repeat over a short 7-30 cm scale. Lighter intervals have a higher percentage of nannofossils and foraminifers whereas darker intervals are more clay rich. The dark intervals have a distinct horizontal fabric that is interpreted as bioturbation disturbed laminations. Light intervals have a 'whispy' fabric that appears to be a combination of burrowing and diagenesis.
Smear slides: one each for clay rich and calcareous lithologies

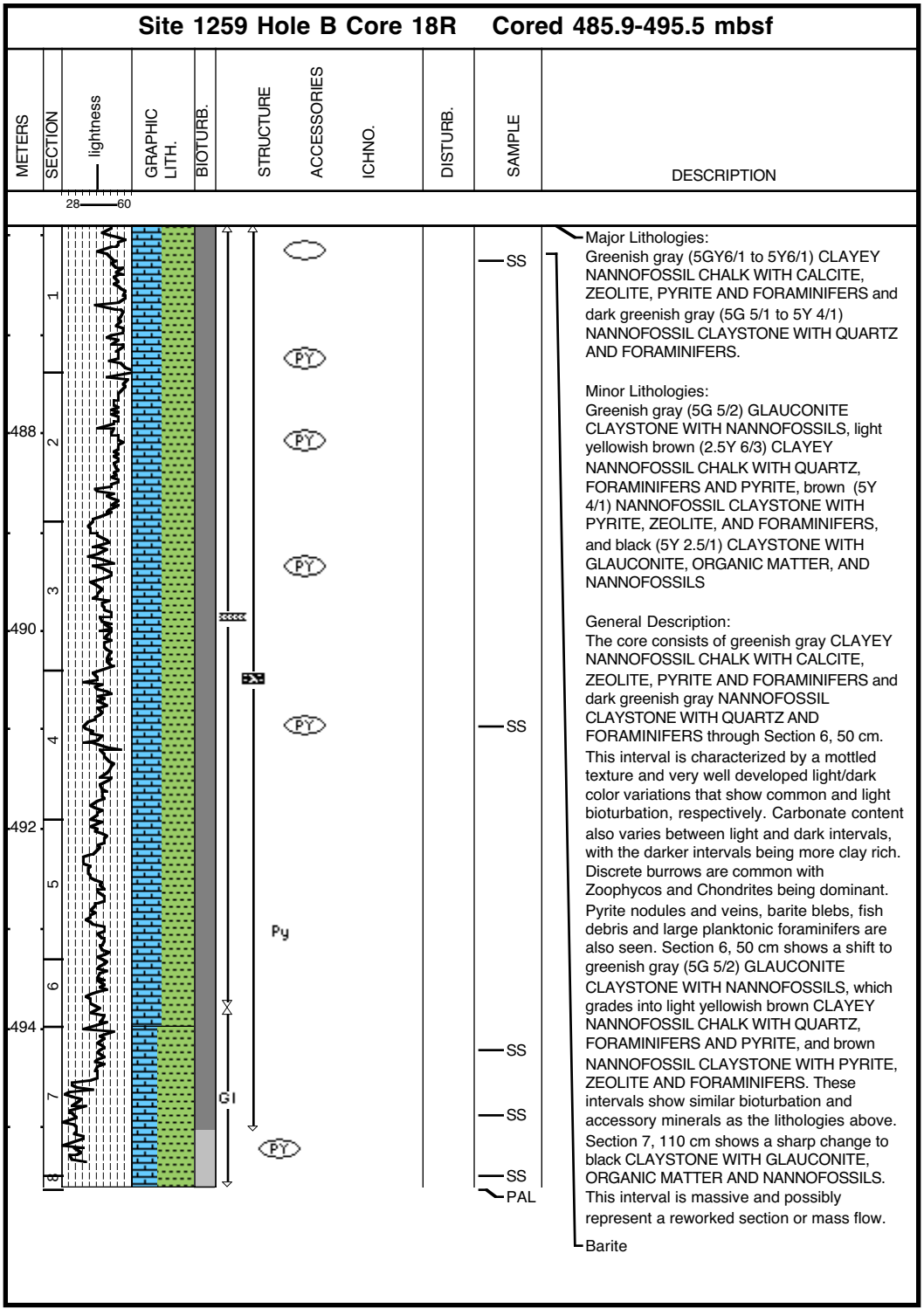
Core Photo


Site 1259 Hole B Core 16R Cored 471.5-476.5 mbsf
METERS
SECTION
lightness
41
62
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
472
474
1
2
3
PY
SS
SS
SS
PAL
Major Lithologies:
Light greenish gray (10GY 7/1, 5GY 7/1) CLAYEY NANNOFOSSIL CHALK WITH CALCITE AND FORAMINIFERS and greenish gray (10GY 6/1, 5GY 6/1) CLAYSTONE WITH ZEOLITES AND CALCITE
General Description:
Major lithologies alternate with a ~15 cm spacing. Color transitions are gradational. Darker intervals contain more clay than light intervals. The dark intervals exhibit a horizontal fabric with few discrete mm-scale burrows. The light intervals are mottled with burrows up to a 1-cm in diameter and have a disrupted, subhorizontal wispy fabric. Discrete trace fossils include Planolites and Chondrites. Section 1 and 3 below ~30 cm are greenish whereas Section 2, 0 cm – Section 2, 30 cm have an olive cast. The lower 60 cm of Section 3 is darker with subtle color variations and few cm-scale burrows.
1 cm thick burrow filled with tan, zeolite-rich sediment

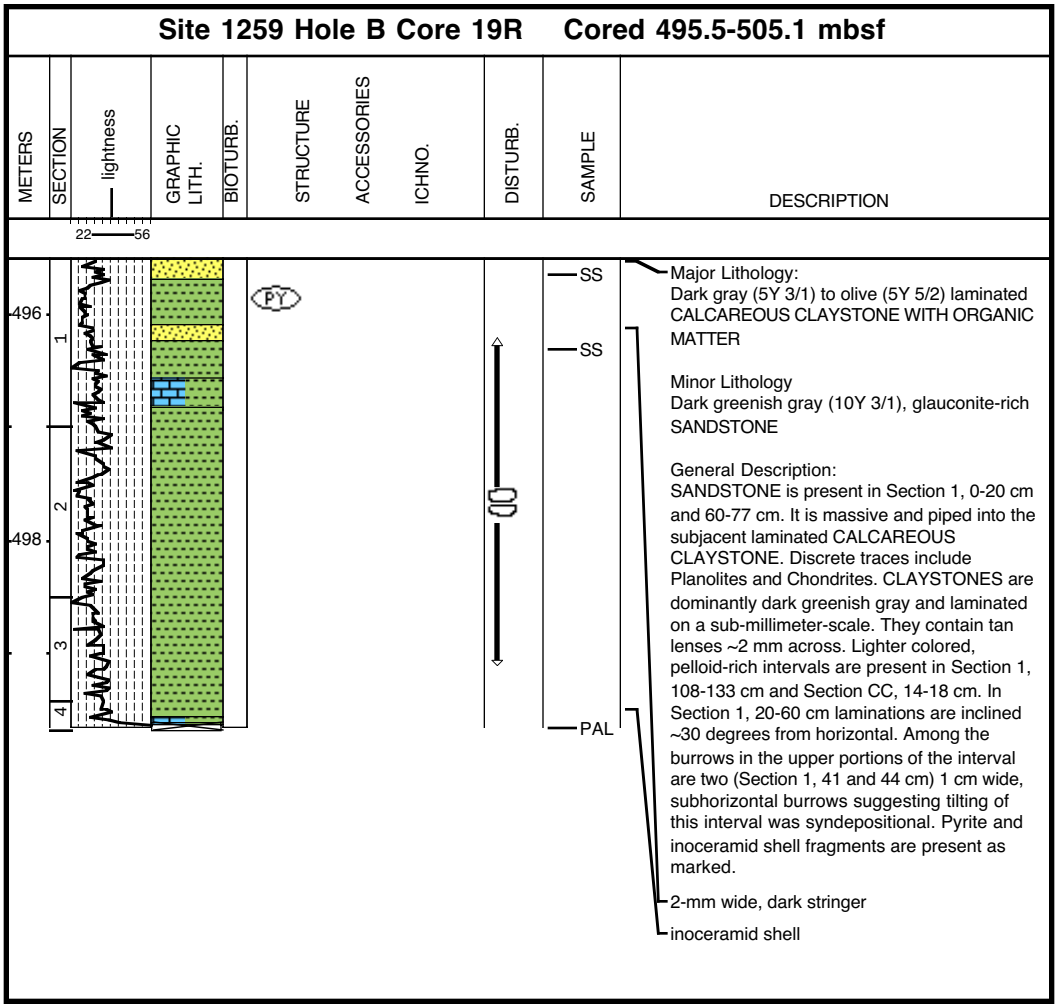
Core Photo


Site 1259 Hole B Core 17R Cored 476.5-485.9 mbsf
METERS
SECTION
lightness
32
62
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
478
480
482
484
486
1
2
3
4
5
6
7
8
SS
PAL
PY
Major Lithology:
Greenish gray (5GY 5/1 to 5GY 6/1) NANNOFOSSIL AND CLAYEY CHALK WITH ZEOLITE AND CALCAREOUS DEBRIS to CALCAREOUS CLAYSTONE WITH FORAMINIFERS AND NANNOFOSSILS
General Description:
The core consists of pervasively mottled greenish gray NANNOFOSSIL AND CLAYEY CHALK WITH ZEOLITE AND CALCAREOUS DEBRIS and CALCAREOUS CLAYSTONE WITH FORAMINIFERS AND NANNOFOSSILS. In the top three sections, there are regular color cycles on a scale of 10-20 cm. Planolites and Chondrites are found throughout this top interval with Zoophycos making their first appearance in Section 3, 65 cm. From Section 3 below, the burrows are infilled with gray sediment and there are common pyrite and barite crystals and nodules within burrows and generally. In Section 4 some intervals become increasingly biscuited and the color cycles are hard to determine. The CC may be more clay rich with a wispy texture and almost laminated appearance.

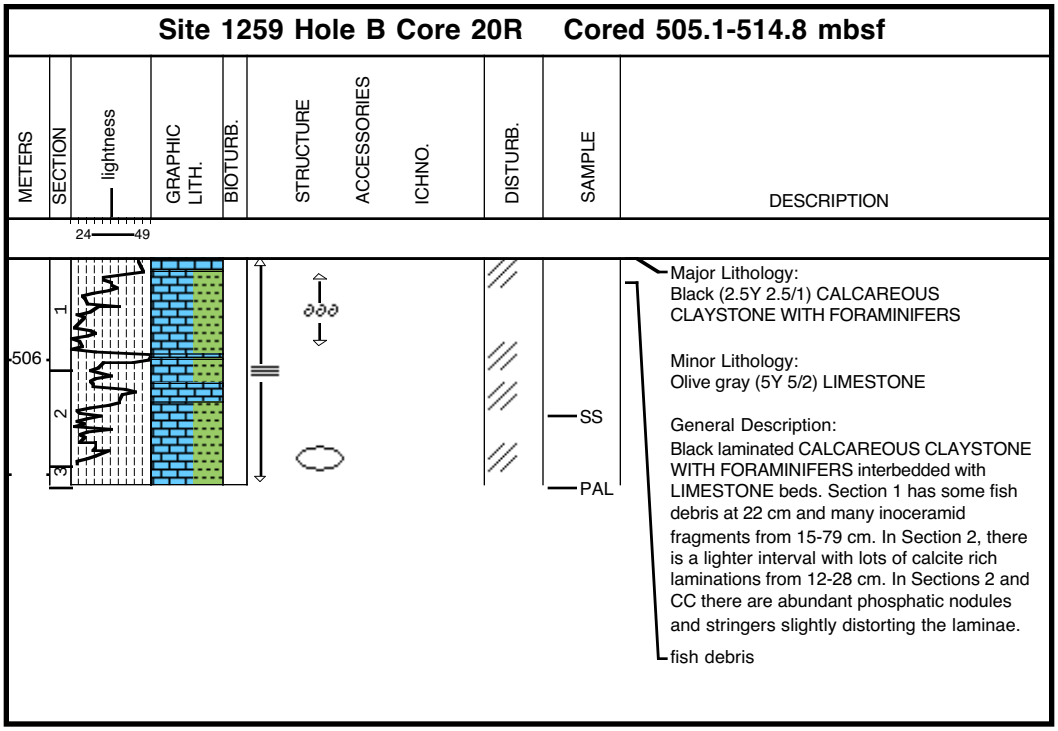
Core Photo


Site 1259 Hole B Core 18R Cored 485.9-495.5 mbsf
METERS
SECTION
lightness
28
60
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
488
490
492
494
1
2
3
4
5
6
7
CC
PY
Py
Gl
SS
PAL
Major Lithologies:
Greenish gray (5GY6/1 to 5Y6/1) CLAYEY NANNOFOSSIL CHALK WITH CALCITE, ZEOLITE, PYRITE AND FORAMINIFERS and dark greenish gray (5G 5/1 to 5Y 4/1) NANNOFOSSIL CLAYSTONE WITH QUARTZ AND FORAMINIFERS.
Minor Lithologies:
Greenish gray (5G 5/2) GLAUCONITE CLAYSTONE WITH NANNOFOSSILS, light yellowish brown (2.5Y 6/3) CLAYEY NANNOFOSSIL CHALK WITH QUARTZ, FORAMINIFERS AND PYRITE, brown (5Y 4/1) NANNOFOSSIL CLAYSTONE WITH PYRITE, ZEOLITE, AND FORAMINIFERS, and black (5Y 2.5/1) CLAYSTONE WITH GLAUCONITE, ORGANIC MATTER, AND NANNOFOSSILS
General Description:
The core consists of greenish gray CLAYEY NANNOFOSSIL CHALK WITH CALCITE, ZEOLITE, PYRITE AND FORAMINIFERS and dark greenish gray NANNOFOSSIL CLAYSTONE WITH QUARTZ AND FORAMINIFERS through Section 6, 50 cm. This interval is characterized by a mottled texture and very well developed light/dark color variations that show common and light bioturbation, respectively. Carbonate content also varies between light and dark intervals, with the darker intervals being more clay rich. Discrete burrows are common with Zoophycos and Chondrites being dominant. Pyrite nodules and veins, barite blebs, fish debris and large planktonic foraminifers are also seen. Section 6, 50 cm shows a shift to greenish gray (5G 5/2) GLAUCONITE CLAYSTONE WITH NANNOFOSSILS, which grades into light yellowish brown CLAYEY NANNOFOSSIL CHALK WITH QUARTZ, FORAMINIFERS AND PYRITE, and brown NANNOFOSSIL CLAYSTONE WITH PYRITE, ZEOLITE AND FORAMINIFERS. These intervals show similar bioturbation and accessory minerals as the lithologies above. Section 7, 110 cm shows a sharp change to black CLAYSTONE WITH GLAUCONITE, ORGANIC MATTER AND NANNOFOSSILS. This interval is massive and possibly represent a reworked section or mass flow.
Barite

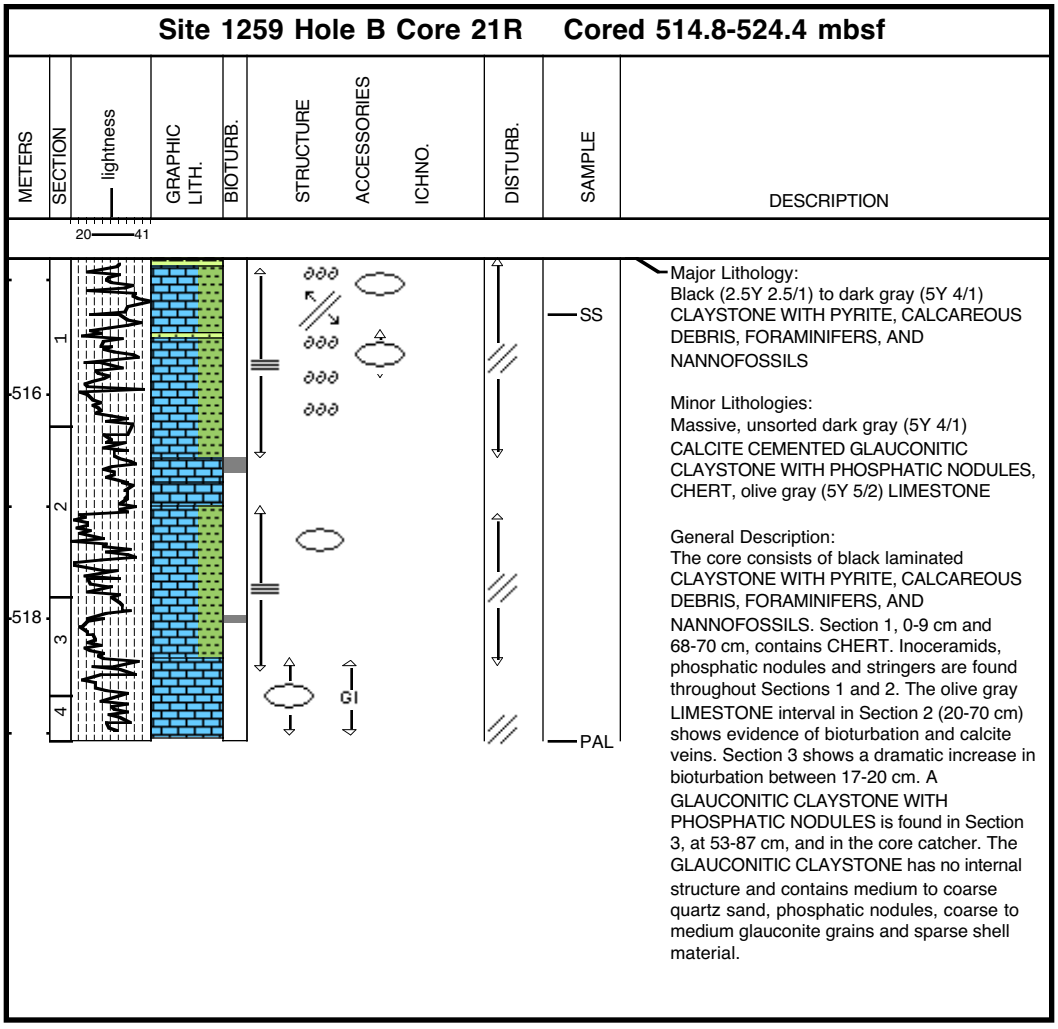
Core Photo


Site 1259 Hole B Core 19R Cored 495.5-505.1 mbsf
METERS
SECTION
lightness
22
56
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
496
498
1
2
3
4
PY
SS
SS
PAL
Major Lithology:
Dark gray (5Y 3/1) to olive (5Y 5/2) laminated CALCAREOUS CLAYSTONE WITH ORGANIC MATTER
Minor Lithology
Dark greenish gray (10Y 3/1), glauconite-rich SANDSTONE
General Description:
SANDSTONE is present in Section 1, 0-20 cm and 60-77 cm. It is massive and piped into the subjacent laminated CALCAREOUS CLAYSTONE. Discrete traces include Planolites and Chondrites. CLAYSTONES are dominantly dark greenish gray and laminated on a sub-millimeter-scale. They contain tan lenses ~2 mm across. Lighter colored, pelloid-rich intervals are present in Section 1, 108-133 cm and Section CC, 14-18 cm. In Section 1, 20-60 cm laminations are inclined ~30 degrees from horizontal. Among the burrows in the upper portions of the interval are two (Section 1, 41 and 44 cm) 1 cm wide, subhorizontal burrows suggesting tilting of this interval was syndepositional. Pyrite and inoceramid shell fragments are present as marked.
2-mm wide, dark stringer
inoceramid shell

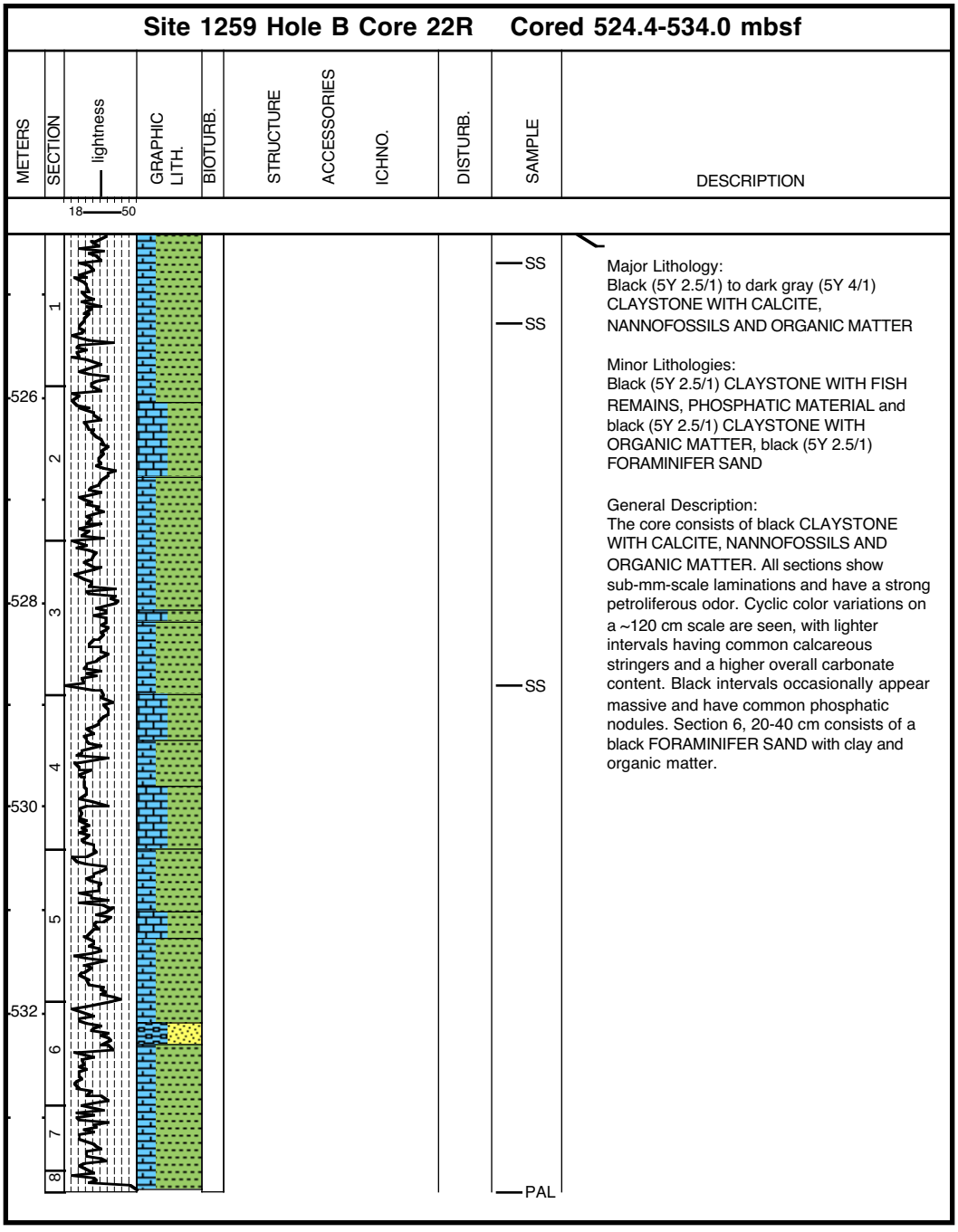
Core Photo


Site 1259 Hole B Core 20R Cored 505.1-514.8 mbsf
METERS
SECTION
lightness
24
49
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
506
1
2
3
SS
PAL
Major Lithology:
Black (2.5Y 2.5/1) CALCAREOUS CLAYSTONE WITH FORAMINIFERS
Minor Lithology:
Olive gray (5Y 5/2) LIMESTONE
General Description:
Black laminated CALCAREOUS CLAYSTONE WITH FORAMINIFERS interbedded with LIMESTONE beds. Section 1 has some fish debris at 22 cm and many inoceramid fragments from 15-79 cm. In Section 2, there is a lighter interval with lots of calcite rich laminations from 12-28 cm. In Sections 2 and CC there are abundant phosphatic nodules and stringers slightly distorting the laminae.
fish debris

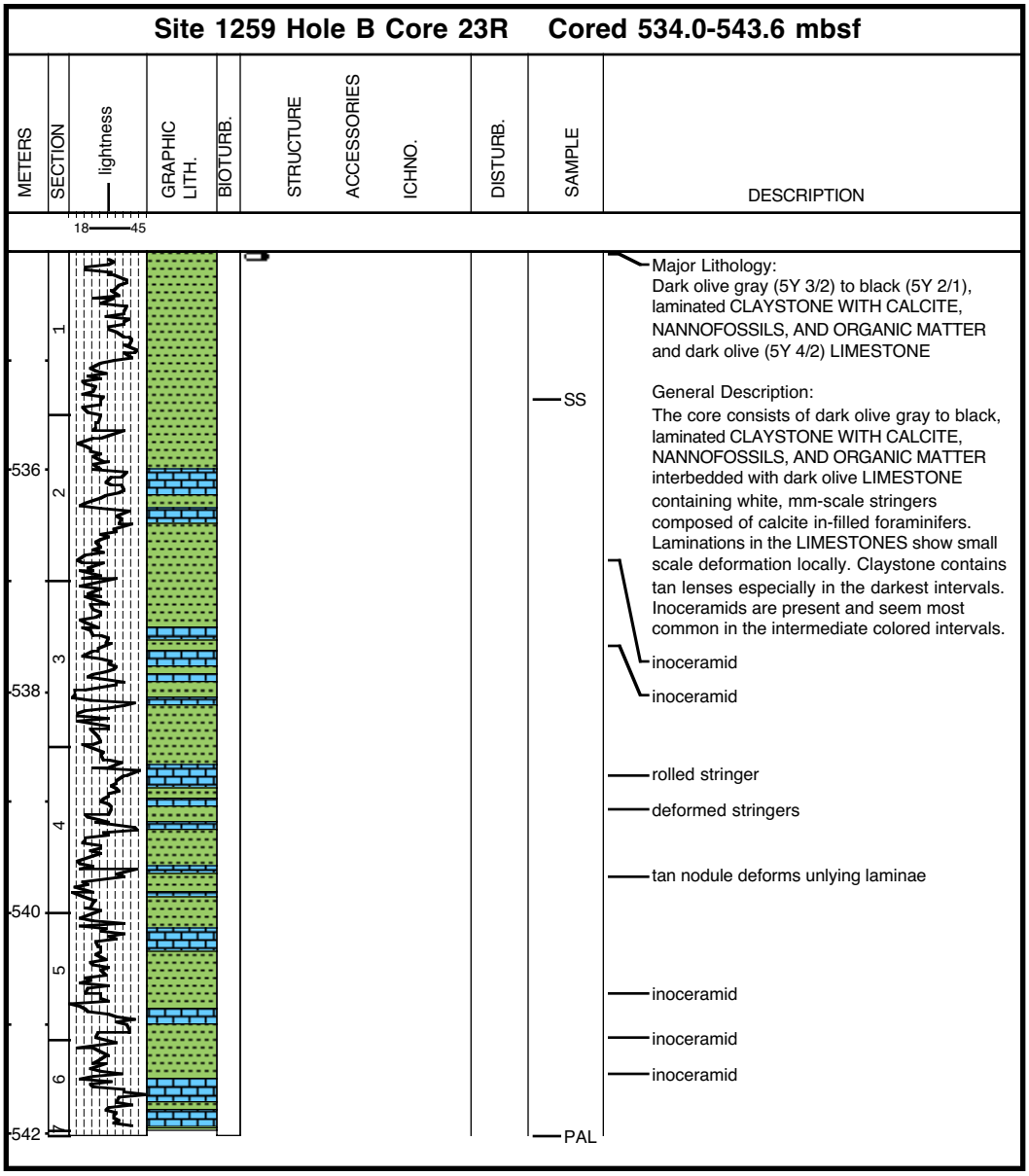
Core Photo


Site 1259 Hole B Core 21R Cored 514.8-524.4 mbsf
METERS
SECTION
lightness
20
41
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
516
518
1
2
3
4
SS
PAL
Gl
Major Lithology:
Black (2.5Y 2.5/1) to dark gray (5Y 4/1) CLAYSTONE WITH PYRITE, CALCAREOUS DEBRIS, FORAMINIFERS, AND NANNOFOSSILS
Minor Lithologies:
Massive, unsorted dark gray (5Y 4/1) CALCITE CEMENTED GLAUCONITIC CLAYSTONE WITH PHOSPHATIC NODULES, CHERT, olive gray (5Y 5/2) LIMESTONE
General Description:
The core consists of black laminated CLAYSTONE WITH PYRITE, CALCAREOUS DEBRIS, FORAMINIFERS, AND NANNOFOSSILS. Section 1, 0-9 cm and 68-70 cm, contains CHERT. Inoceramids, phosphatic nodules and stringers are found throughout Sections 1 and 2. The olive gray LIMESTONE interval in Section 2 (20-70 cm) shows evidence of bioturbation and calcite veins. Section 3 shows a dramatic increase in bioturbation between 17-20 cm. A GLAUCONITIC CLAYSTONE WITH PHOSPHATIC NODULES is found in Section 3, at 53-87 cm, and in the core catcher. The GLAUCONITIC CLAYSTONE has no internal structure and contains medium to coarse quartz sand, phosphatic nodules, coarse to medium glauconite grains and sparse shell material.

Core Photo

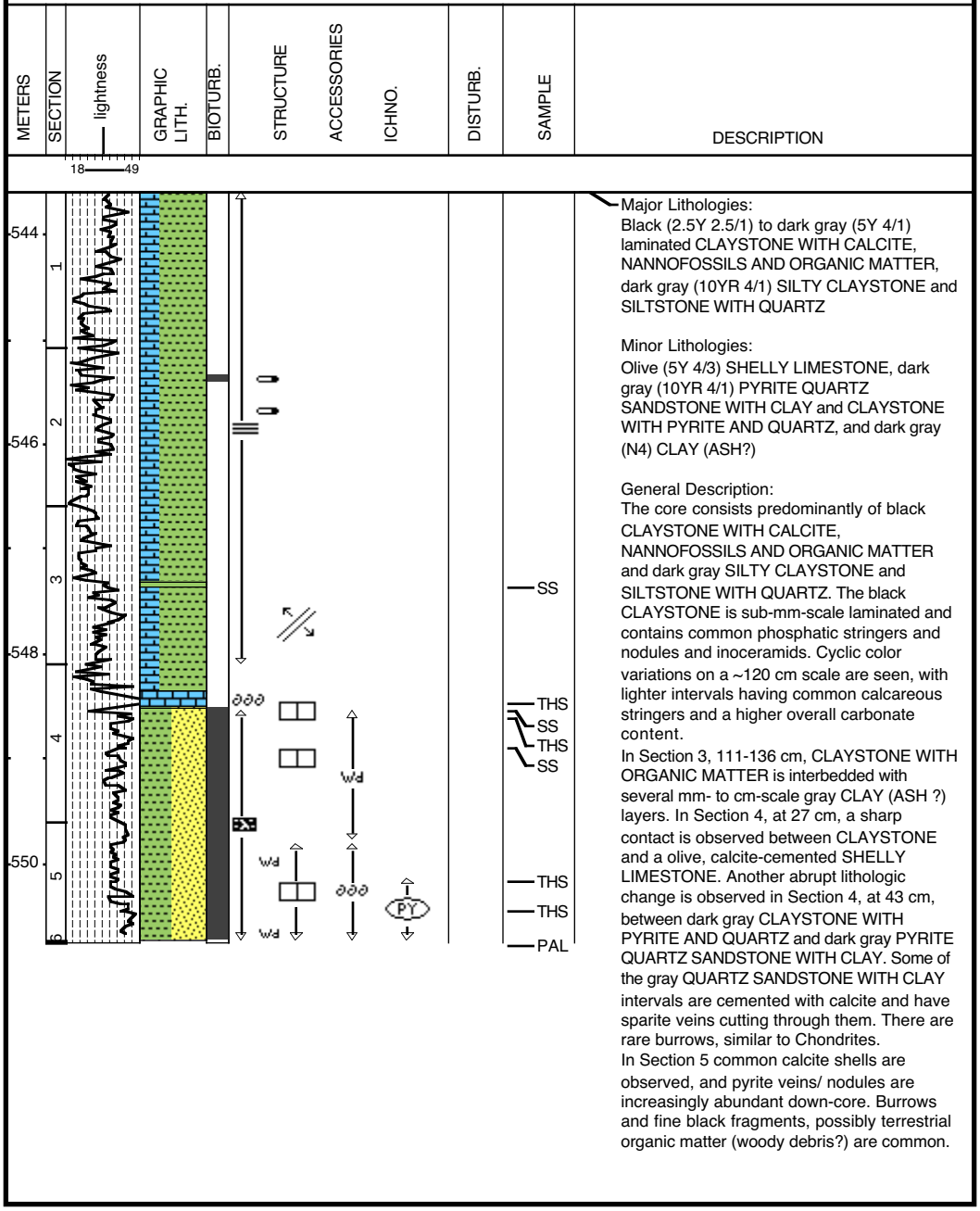

Site 1259 Hole B Core 22R Cored 524.4-534.0 mbsf
METERS
SECTION
lightness
18
50
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
526
528
530
532
1
2
3
4
5
6
7
8
SS
SS
SS
PAL
Major Lithology:
Black (5Y 2.5/1) to dark gray (5Y 4/1) CLAYSTONE WITH CALCITE, NANNOFOSSILS AND ORGANIC MATTER
Minor Lithologies:
Black (5Y 2.5/1) CLAYSTONE WITH FISH REMAINS, PHOSPHATIC MATERIAL and black (5Y 2.5/1) CLAYSTONE WITH ORGANIC MATTER, black (5Y 2.5/1) FORAMINIFER SAND
General Description:
The core consists of black CLAYSTONE WITH CALCITE, NANNOFOSSILS AND ORGANIC MATTER. All sections show sub-mm-scale laminations and have a strong petroliferous odor. Cyclic color variations on a ~120 cm scale are seen, with lighter intervals having common calcareous stringers and a higher overall carbonate content. Black intervals occasionally appear massive and have common phosphatic nodules. Section 6, 20-40 cm consists of a black FORAMINIFER SAND with clay and organic matter.

Core Photo


Site 1259 Hole B Core 23R Cored 534.0-543.6 mbsf
METERS
SECTION
lightness
18
45
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
536
538
540
542
1
2
3
4
5
6
SS
PAL
Major Lithology:
Dark olive gray (5Y 3/2) to black (5Y 2/1), laminated CLAYSTONE WITH CALCITE, NANNOFOSSILS, AND ORGANIC MATTER and dark olive (5Y 4/2) LIMESTONE
General Description:
The core consists of dark olive gray to black, laminated CLAYSTONE WITH CALCITE, NANNOFOSSILS, AND ORGANIC MATTER interbedded with dark olive LIMESTONE containing white, mm-scale stringers composed of calcite in-filled foraminifers. Laminations in the LIMESTONES show small scale deformation locally. Claystone contains tan lenses especially in the darkest intervals. Inoceramids are present and seem most common in the intermediate colored intervals.
inoceramid
inoceramid
rolled stringer
deformed stringers
tan nodule deforms unlying laminae
inoceramid
inoceramid
inoceramid

Core Photo

Site 1259 Hole B Core 24R Cored 543.6-553.2 mbsf'

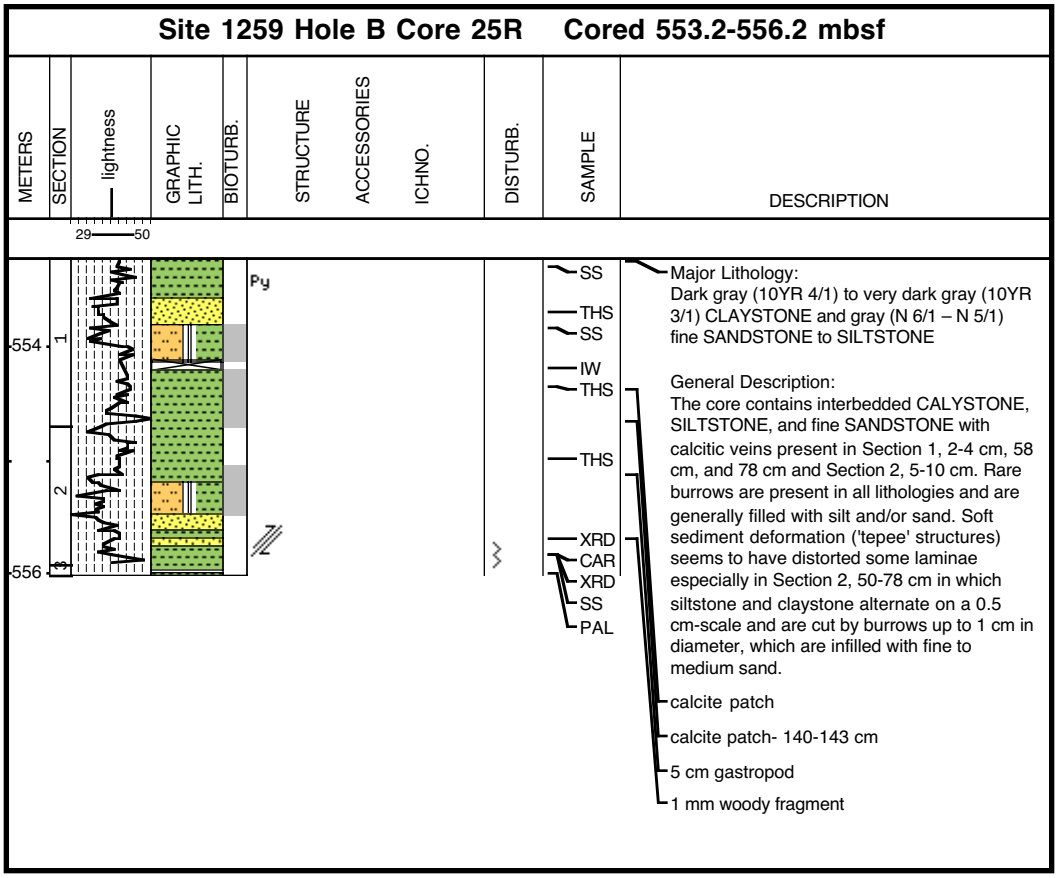


Major Lithologies:
Black (2.5Y 2.5/1) to dark gray (5Y 4/1) laminated CLAYSTONE WITH CALCITE, NANNOFOSSILS AND ORGANIC MATTER, dark gray (10YR 4/1) SILTY CLAYSTONE and SILTSTONE WITH QUARTZ

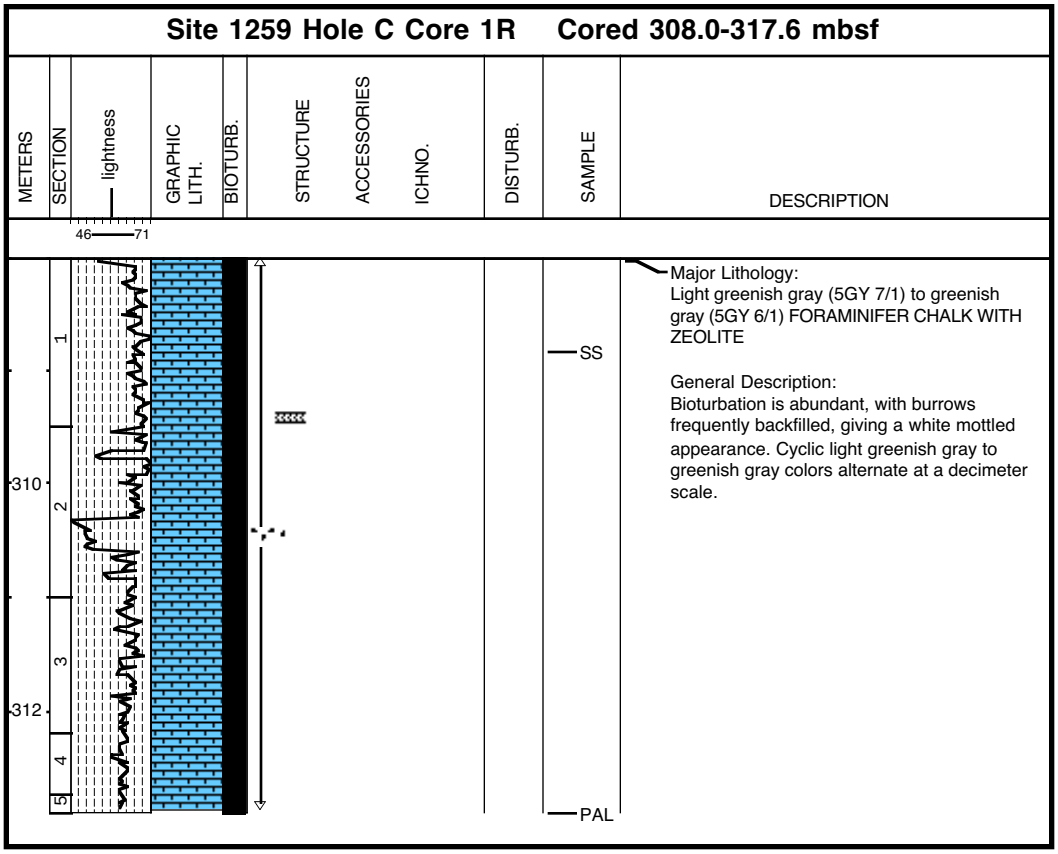
Minor Lithologies:
Olive (5Y 4/3) SHELLY LIMESTONE, dark gray (10YR 4/1) PYRITE QUARTZ SANDSTONE WITH CLAY and CLAYSTONE WITH PYRITE AND QUARTZ, and dark gray (N4) CLAY (ASH?)

General Description:
The core consists predominantly of black CLAYSTONE WITH CALCITE, NANNOFOSSILS AND ORGANIC MATTER and dark gray SILTY CLAYSTONE and SILTSTONE WITH QUARTZ. The black CLAYSTONE is sub-mm-scale laminated and contains common phosphatic stringers and nodules and inoceramids. Cyclic color variations on a ~120 cm scale are seen, with lighter intervals having common calcareous stringers and a higher overall carbonate content.
In Section 3, 111-136 cm, CLAYSTONE WITH ORGANIC MATTER is interbedded with several mm- to cm-scale gray CLAY (ASH ?) layers. In Section 4, at 27 cm, a sharp contact is observed between CLAYSTONE and a olive, calcite-cemented SHELLY LIMESTONE. Another abrupt lithologic change is observed in Section 4, at 43 cm, between dark gray CLAYSTONE WITH PYRITE AND QUARTZ and dark gray PYRITE QUARTZ SANDSTONE WITH CLAY. Some of the gray QUARTZ SANDSTONE WITH CLAY intervals are cemented with calcite and have sparite veins cutting through them. There are rare burrows, similar to Chondrites.
In Section 5 common calcite shells are observed, and pyrite veins/ nodules are increasingly abundant down-core. Burrows and fine black fragments, possibly terrestrial organic matter (woody debris?) are common.

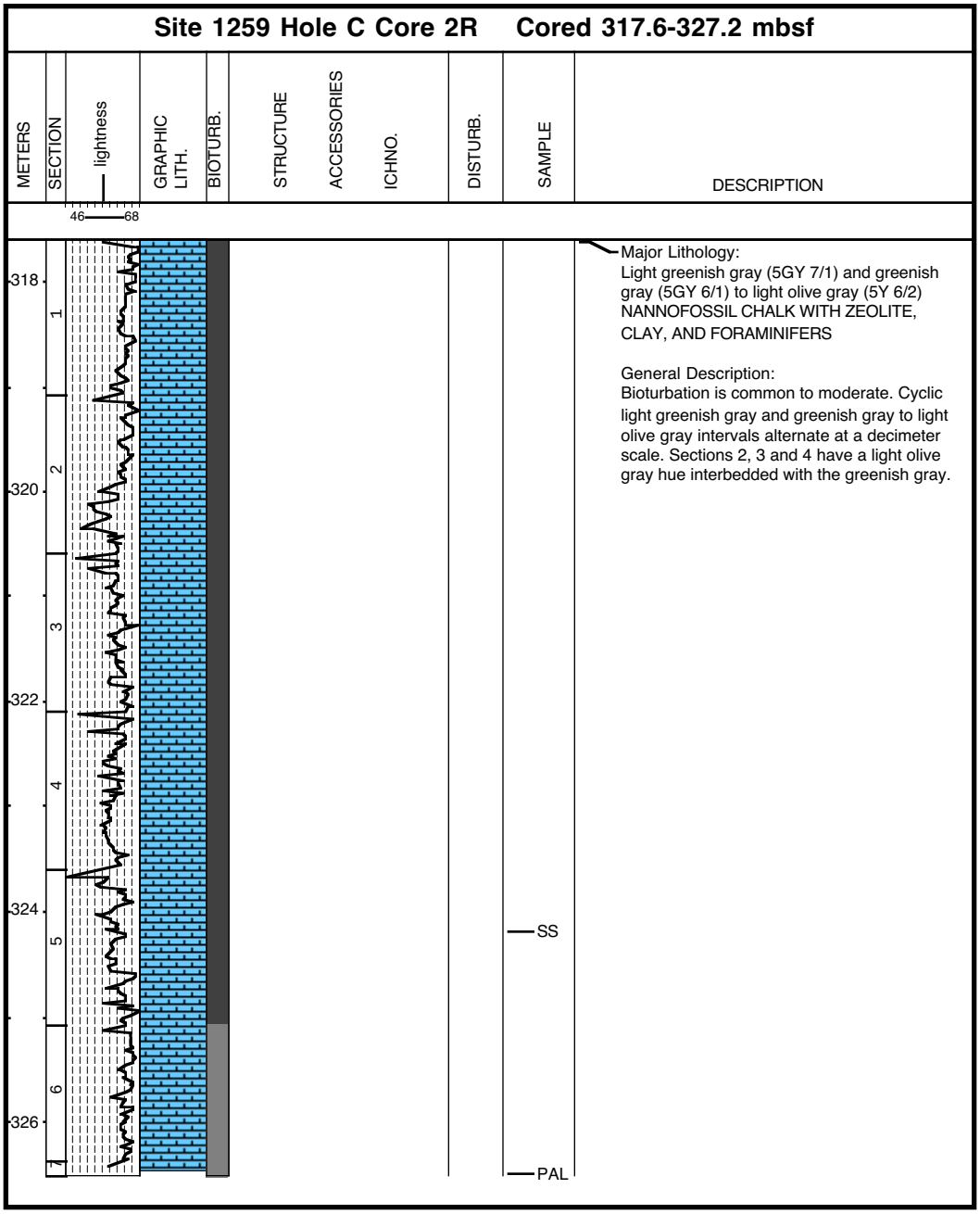
Core Photo


Site 1259 Hole B Core 25R Cored 553.2-556.2 mbsf
METERS
SECTION
lightness
29
50
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
554
556
1
2
3
Py
SS
THS
SS
IW
THS
THS
XRD
CAR
XRD
SS
PAL
Major Lithology:
Dark gray (10YR 4/1) to very dark gray (10YR 3/1) CLAYSTONE and gray (N 6/1 – N 5/1) fine SANDSTONE to SILTSTONE
General Description:
The core contains interbedded CALYSTONE, SILTSTONE, and fine SANDSTONE with calcitic veins present in Section 1, 2-4 cm, 58 cm, and 78 cm and Section 2, 5-10 cm. Rare burrows are present in all lithologies and are generally filled with silt and/or sand. Soft sediment deformation ('tepee' structures) seems to have distorted some laminae especially in Section 2, 50-78 cm in which siltstone and claystone alternate on a 0.5 cm-scale and are cut by burrows up to 1 cm in diameter, which are infilled with fine to medium sand.
calcite patch
calcite patch- 140-143 cm
5 cm gastropod
1 mm woody fragment

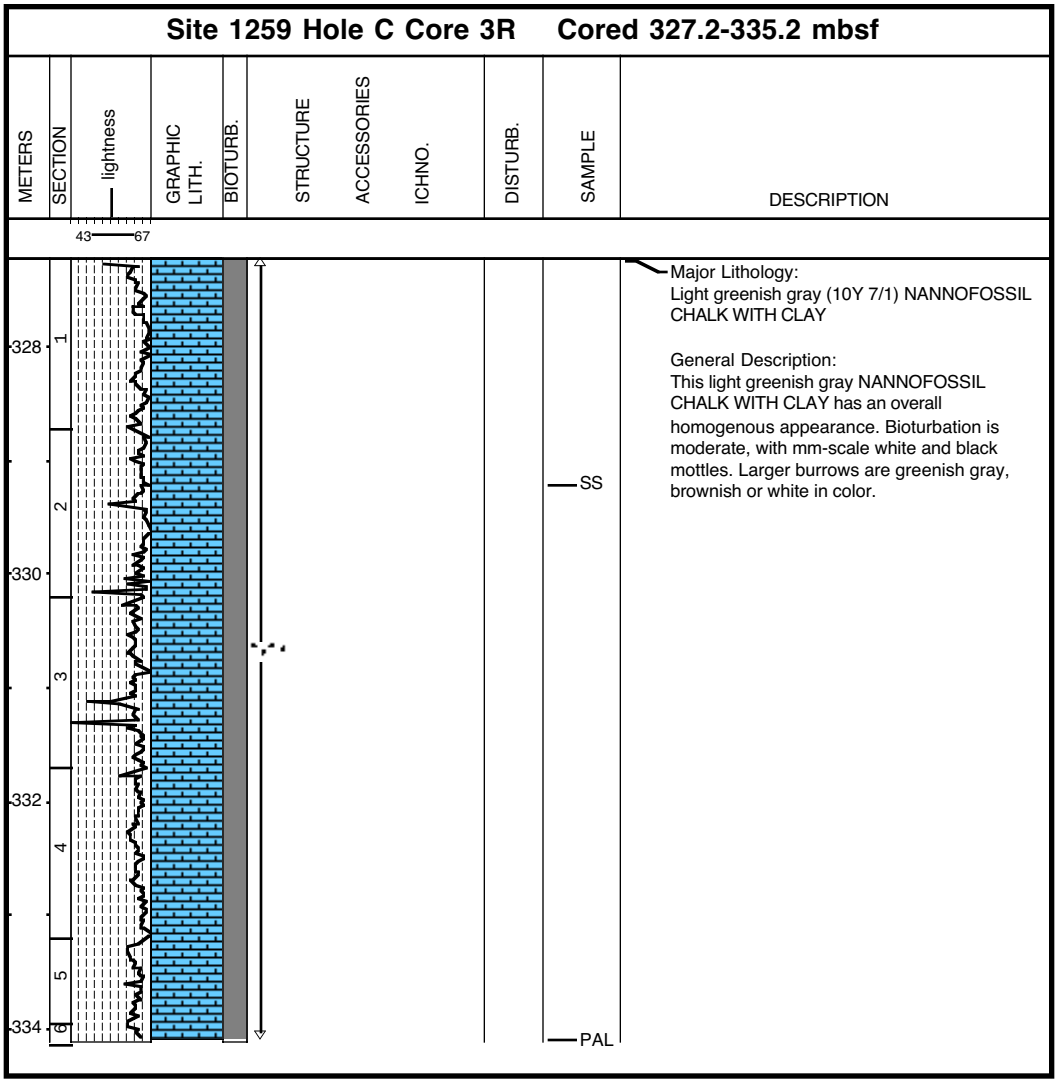
Core Photo


Site 1259 Hole C Core 1R Cored 308.0-317.6 mbsf
METERS
SECTION
lightness
46
71
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
310
312
1
2
3
4
5
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to greenish gray (5GY 6/1) FORAMINIFER CHALK WITH ZEOLITE
General Description:
Bioturbation is abundant, with burrows frequently backfilled, giving a white mottled appearance. Cyclic light greenish gray to greenish gray colors alternate at a decimeter scale.

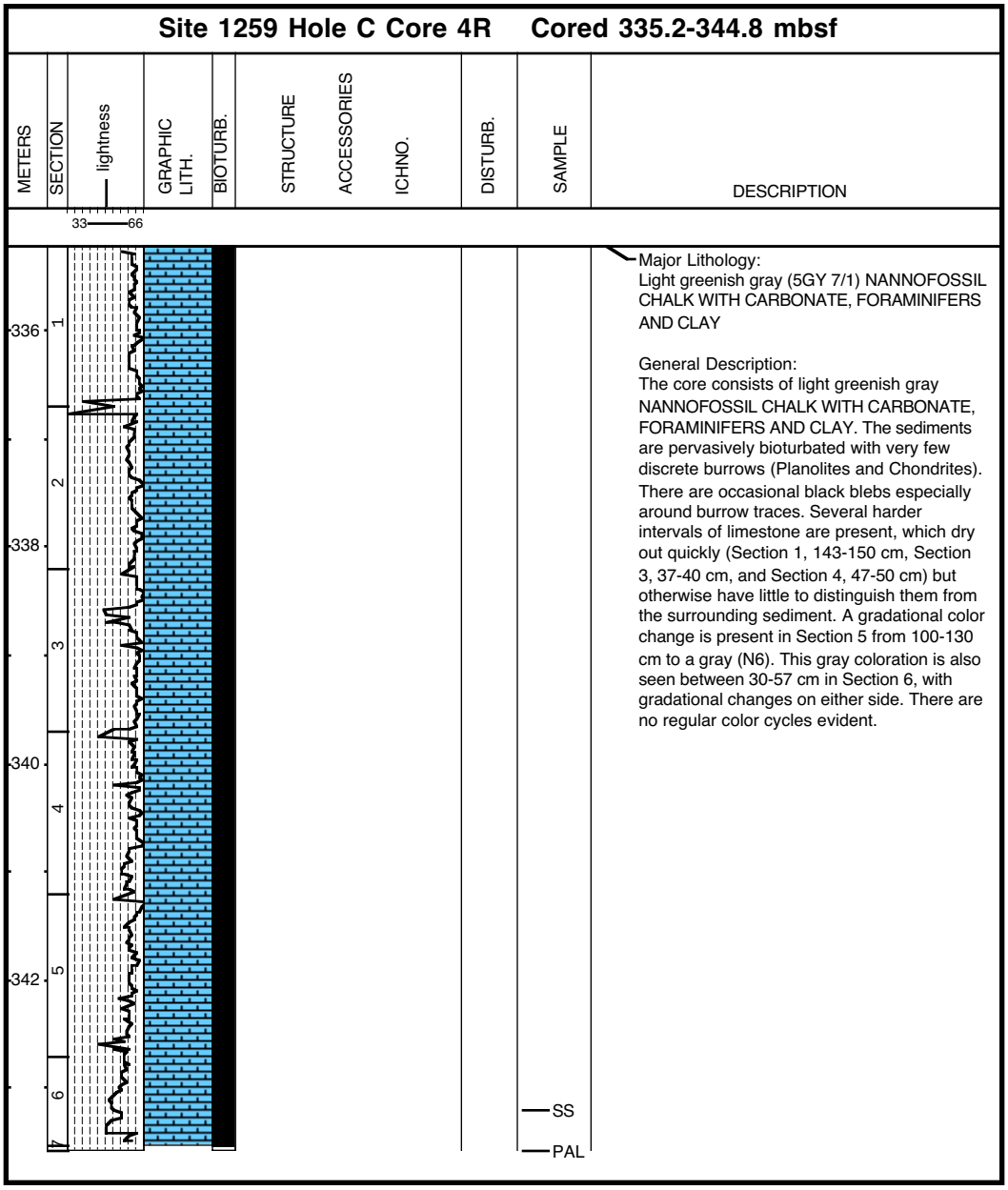
Core Photo


Site 1259 Hole C Core 2R Cored 317.6-327.2 mbsf
METERS
SECTION
lightness
46
68
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
318
320
322
324
326
1
2
3
4
5
6
7
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) and greenish gray (5GY 6/1) to light olive gray (5Y 6/2) NANNOFOSSIL CHALK WITH ZEOLITE, CLAY, AND FORAMINIFERS
General Description:
Bioturbation is common to moderate. Cyclic light greenish gray and greenish gray to light olive gray intervals alternate at a decimeter scale. Sections 2, 3 and 4 have a light olive gray hue interbedded with the greenish gray.

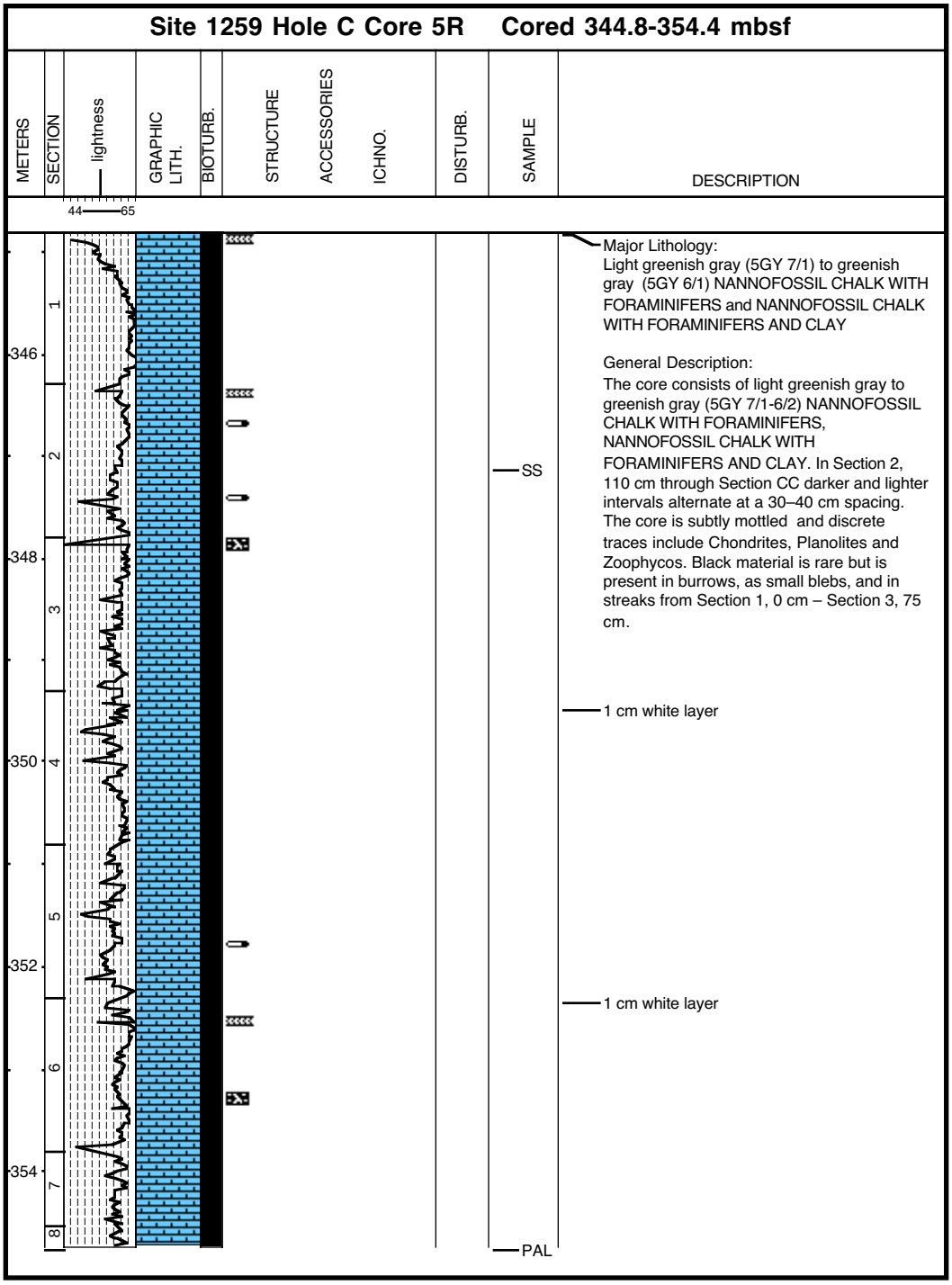
Core Photo


Site 1259 Hole C Core 3R Cored 327.2-335.2 mbsf
METERS
SECTION
lightness
43
67
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
328
330
332
334
1
2
3
4
5
6
SS
PAL
Major Lithology:
Light greenish gray (10Y 7/1) NANNOFOSSIL CHALK WITH CLAY
General Description:
This light greenish gray NANNOFOSSIL CHALK WITH CLAY has an overall homogenous appearance. Bioturbation is moderate, with mm-scale white and black mottles. Larger burrows are greenish gray, brownish or white in color.

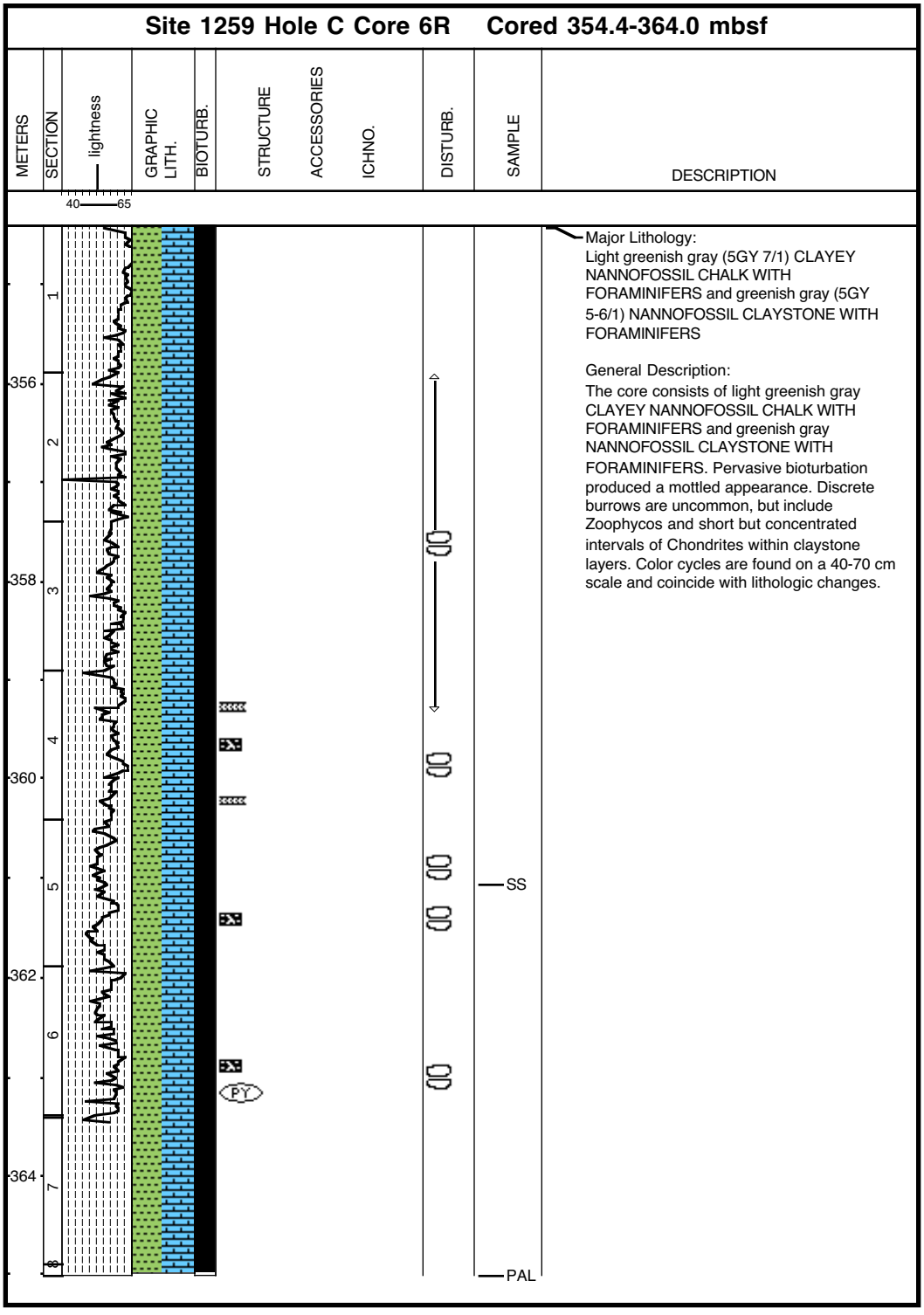
Core Photo


Site 1259 Hole C Core 4R Cored 335.2-344.8 mbsf
METERS
SECTION
lightness
33
66
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
336
338
340
342
1
2
3
4
5
6
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) NANNOFOSSIL CHALK WITH CARBONATE, FORAMINIFERS AND CLAY
General Description:
The core consists of light greenish gray NANNOFOSSIL CHALK WITH CARBONATE, FORAMINIFERS AND CLAY. The sediments are pervasively bioturbated with very few discrete burrows (Planolites and Chondrites). There are occasional black blebs especially around burrow traces. Several harder intervals of limestone are present, which dry out quickly (Section 1, 143-150 cm, Section 3, 37-40 cm, and Section 4, 47-50 cm) but otherwise have little to distinguish them from the surrounding sediment. A gradational color change is present in Section 5 from 100-130 cm to a gray (N6). This gray coloration is also seen between 30-57 cm in Section 6, with gradational changes on either side. There are no regular color cycles evident.

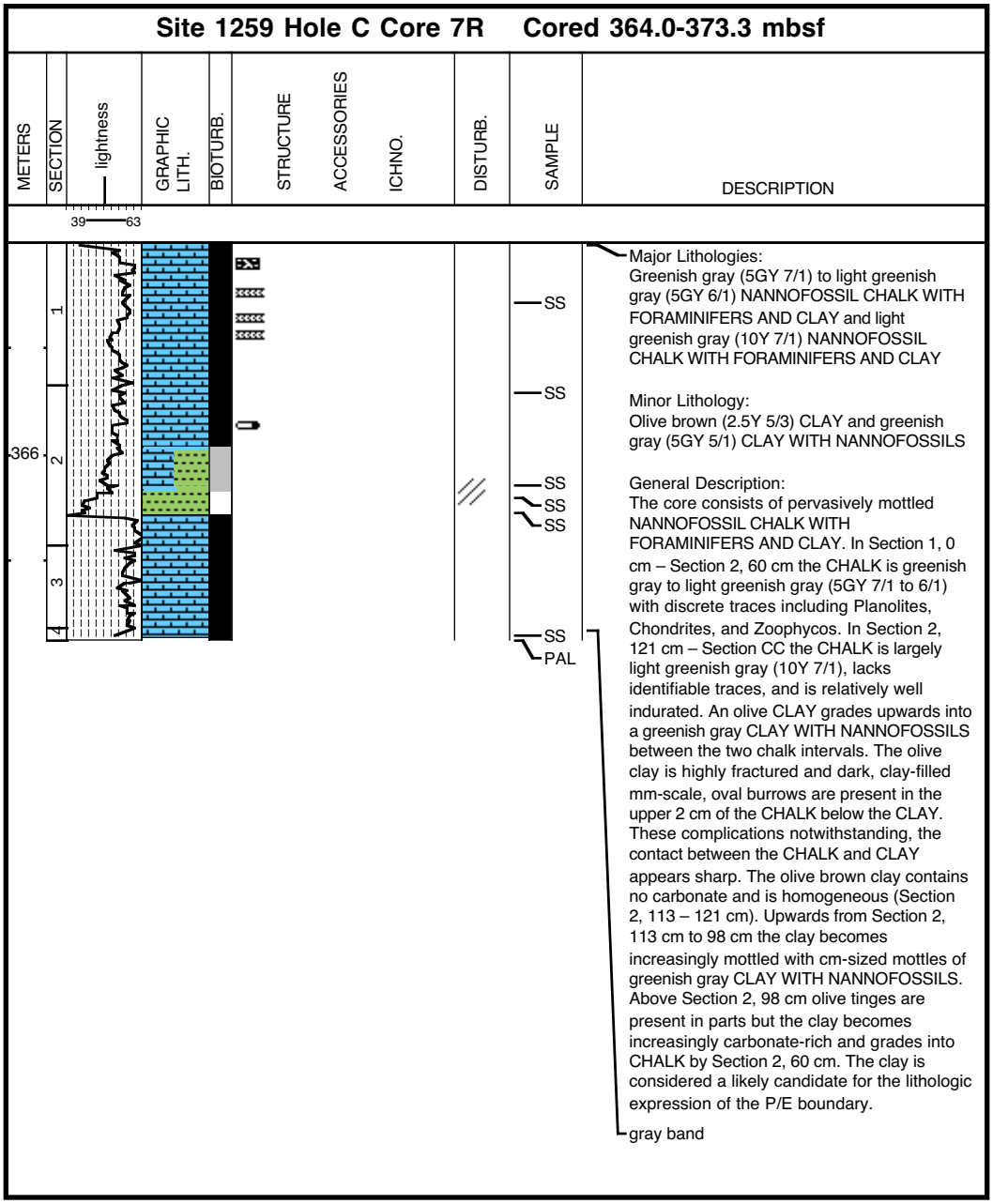
Core Photo


Site 1259 Hole C Core 5R Cored 344.8-354.4 mbsf
METERS
SECTION
lightness
44
65
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
346
348
350
352
354
1
2
3
4
5
6
7
8
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) to greenish gray (5GY 6/1) NANNOFOSSIL CHALK WITH FORAMINIFERS and NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY
General Description:
The core consists of light greenish gray to greenish gray (5GY 7/1-6/2) NANNOFOSSIL CHALK WITH FORAMINIFERS, NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY. In Section 2, 110 cm through Section CC darker and lighter intervals alternate at a 30–40 cm spacing. The core is subtly mottled and discrete traces include Chondrites, Planolites and Zoophycos. Black material is rare but is present in burrows, as small blebs, and in streaks from Section 1, 0 cm – Section 3, 75 cm.
1 cm white layer
1 cm white layer

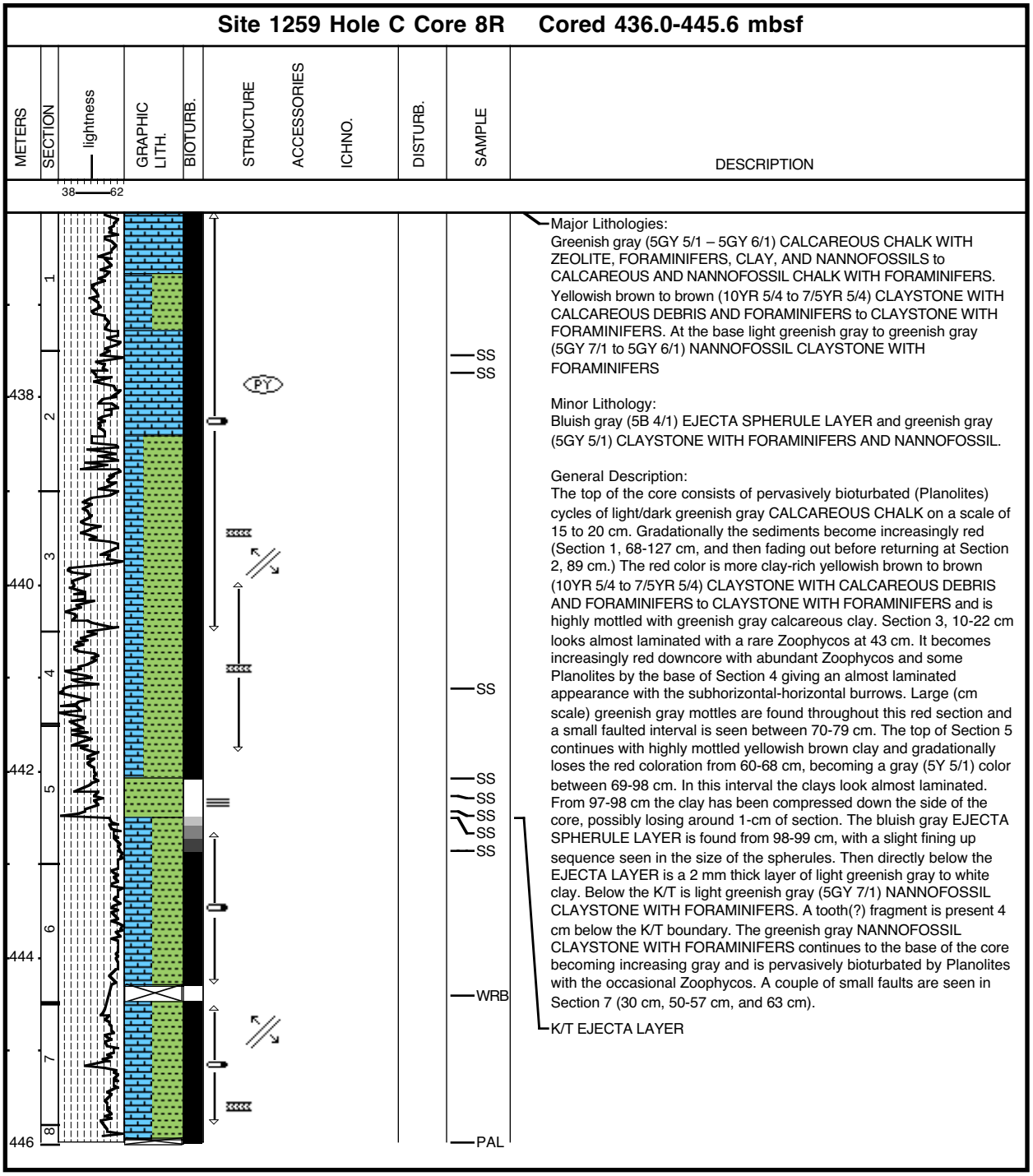
Core Photo


Site 1259 Hole C Core 6R Cored 354.4-364.0 mbsf
METERS
SECTION
lightness
40
65
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
356
358
360
362
364
1
2
3
4
5
6
7
8
PY
SS
PAL
Major Lithology:
Light greenish gray (5GY 7/1) CLAYEY NANNOFOSSIL CHALK WITH FORAMINIFERS and greenish gray (5GY 5-6/1) NANNOFOSSIL CLAYSTONE WITH FORAMINIFERS
General Description:
The core consists of light greenish gray CLAYEY NANNOFOSSIL CHALK WITH FORAMINIFERS and greenish gray NANNOFOSSIL CLAYSTONE WITH FORAMINIFERS. Pervasive bioturbation produced a mottled appearance. Discrete burrows are uncommon, but include Zoophycos and short but concentrated intervals of Chondrites within claystone layers. Color cycles are found on a 40-70 cm scale and coincide with lithologic changes.

Core Photo

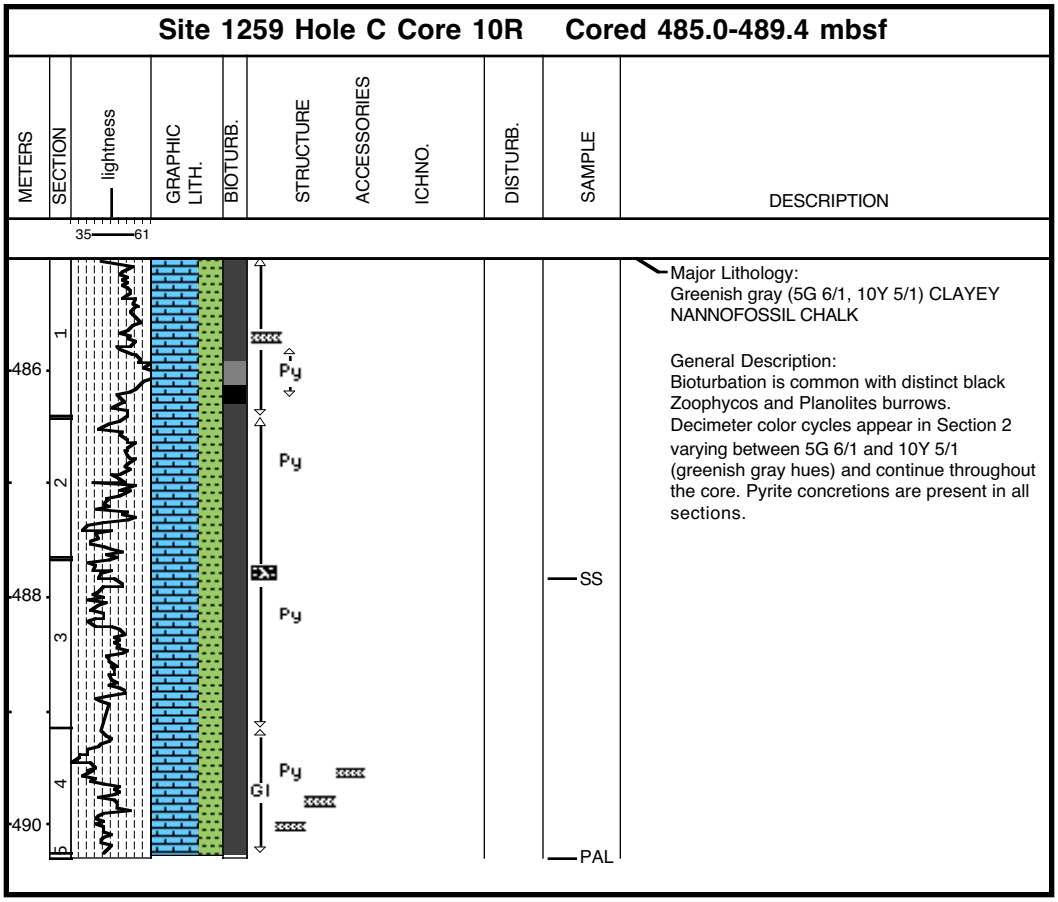

Site 1259 Hole C Core 7R Cored 364.0-373.3 mbsf
METERS
SECTION
lightness
39
63
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
366
1
2
3
4
SS
SS
SS
SS
SS
SS
PAL
Major Lithologies:
Greenish gray (5GY 7/1) to light greenish gray (5GY 6/1) NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY and light greenish gray (10Y 7/1) NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY
Minor Lithology:
Olive brown (2.5Y 5/3) CLAY and greenish gray (5GY 5/1) CLAY WITH NANNOFOSSILS
General Description:
The core consists of pervasively mottled NANNOFOSSIL CHALK WITH FORAMINIFERS AND CLAY. In Section 1, 0 cm – Section 2, 60 cm the CHALK is greenish gray to light greenish gray (5GY 7/1 to 6/1) with discrete traces including Planolites, Chondrites, and Zoophycos. In Section 2, 121 cm – Section CC the CHALK is largely light greenish gray (10Y 7/1), lacks identifiable traces, and is relatively well indurated. An olive CLAY grades upwards into a greenish gray CLAY WITH NANNOFOSSILS between the two chalk intervals. The olive clay is highly fractured and dark, clay-filled mm-scale, oval burrows are present in the upper 2 cm of the CHALK below the CLAY. These complications notwithstanding, the contact between the CHALK and CLAY appears sharp. The olive brown clay contains no carbonate and is homogeneous (Section 2, 113 – 121 cm). Upwards from Section 2, 113 cm to 98 cm the clay becomes increasingly mottled with cm-sized mottles of greenish gray CLAY WITH NANNOFOSSILS. Above Section 2, 98 cm olive tinges are present in parts but the clay becomes increasingly carbonate-rich and grades into CHALK by Section 2, 60 cm. The clay is considered a likely candidate for the lithologic expression of the P/E boundary.
gray band

Core Photo

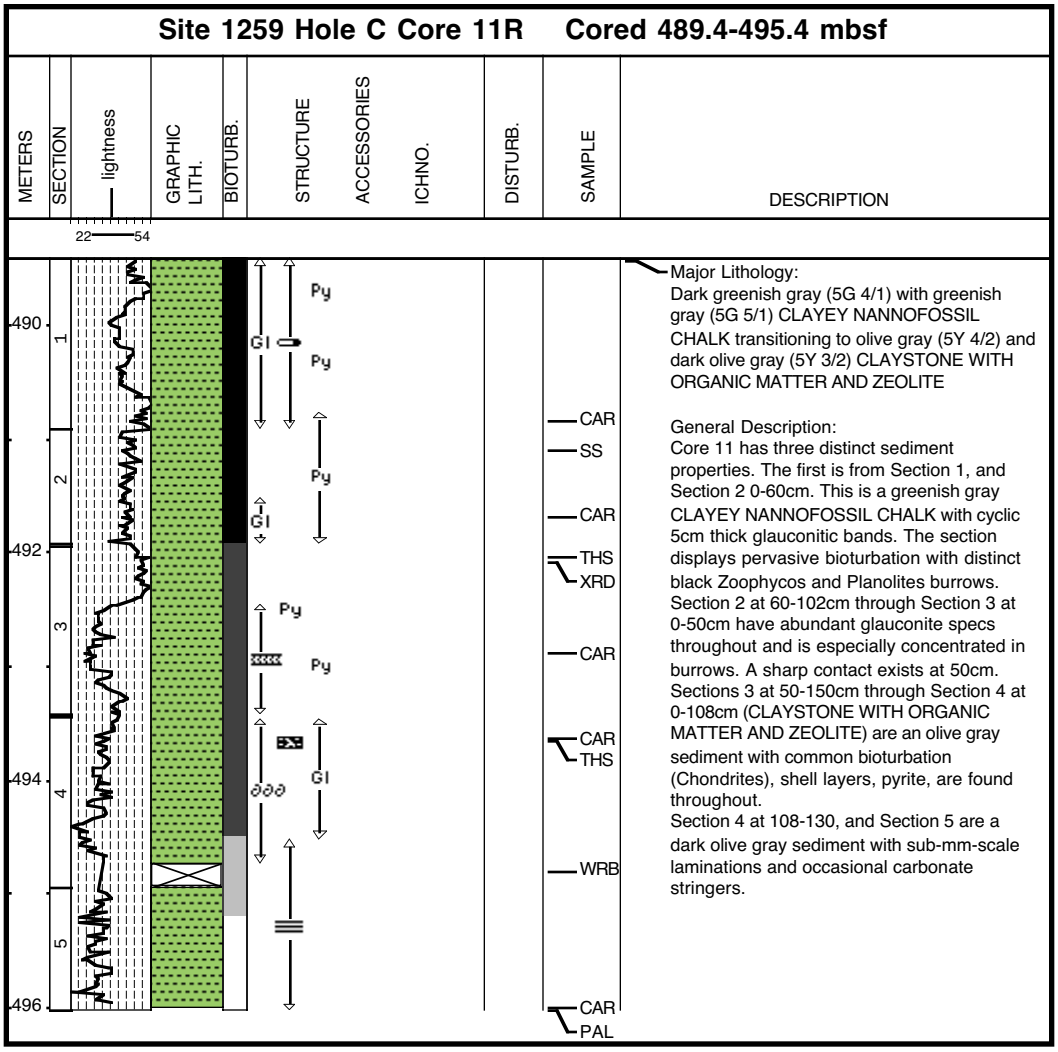


1259C-9R NO RECOVERY

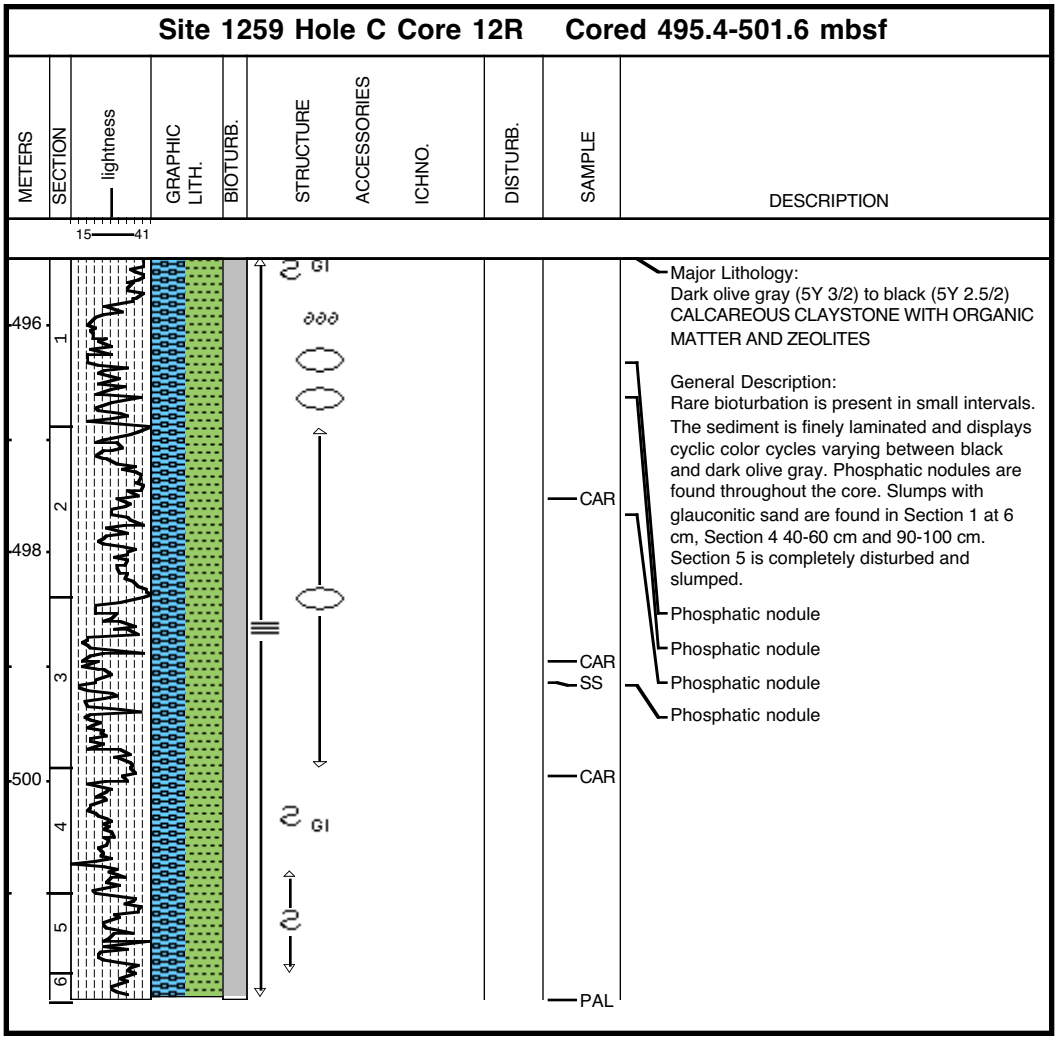
Core Photo


Site 1259 Hole C Core 10R Cored 485.0-489.4 mbsf
METERS
SECTION
lightness
35
61
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
486
488
490
1
2
3
4
5
Py
Py
Py
Py
Gl
SS
PAL
Major Lithology:
Greenish gray (5G 6/1, 10Y 5/1) CLAYEY NANNOFOSSIL CHALK
General Description:
Bioturbation is common with distinct black Zoophycos and Planolites burrows. Decimeter color cycles appear in Section 2 varying between 5G 6/1 and 10Y 5/1 (greenish gray hues) and continue throughout the core. Pyrite concretions are present in all sections.

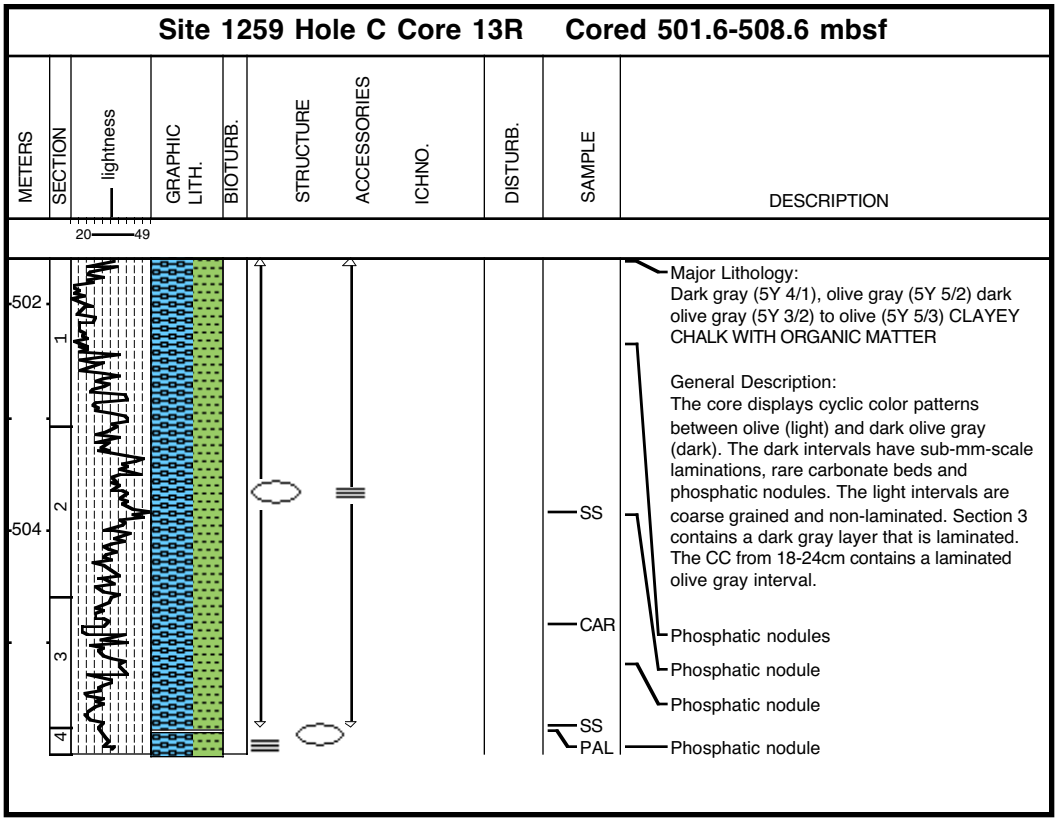
Core Photo


Site 1259 Hole C Core 11R Cored 489.4-495.4 mbsf
METERS
SECTION
lightness
22
54
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
490
492
494
496
1
2
3
4
5
Py
Gl
CAR
SS
THS
XRD
WRB
PAL
Major Lithology:
Dark greenish gray (5G 4/1) with greenish gray (5G 5/1) CLAYEY NANNOFOSSIL CHALK transitioning to olive gray (5Y 4/2) and dark olive gray (5Y 3/2) CLAYSTONE WITH ORGANIC MATTER AND ZEOLITE
General Description:
Core 11 has three distinct sediment properties. The first is from Section 1, and Section 2 0-60cm. This is a greenish gray CLAYEY NANNOFOSSIL CHALK with cyclic 5cm thick glauconitic bands. The section displays pervasive bioturbation with distinct black Zoophycos and Planolites burrows. Section 2 at 60-102cm through Section 3 at 0-50cm have abundant glauconite specs throughout and is especially concentrated in burrows. A sharp contact exists at 50cm. Sections 3 at 50-150cm through Section 4 at 0-108cm (CLAYSTONE WITH ORGANIC MATTER AND ZEOLITE) are an olive gray sediment with common bioturbation (Chondrites), shell layers, pyrite, are found throughout.
Section 4 at 108-130, and Section 5 are a dark olive gray sediment with sub-mm-scale laminations and occasional carbonate stringers.

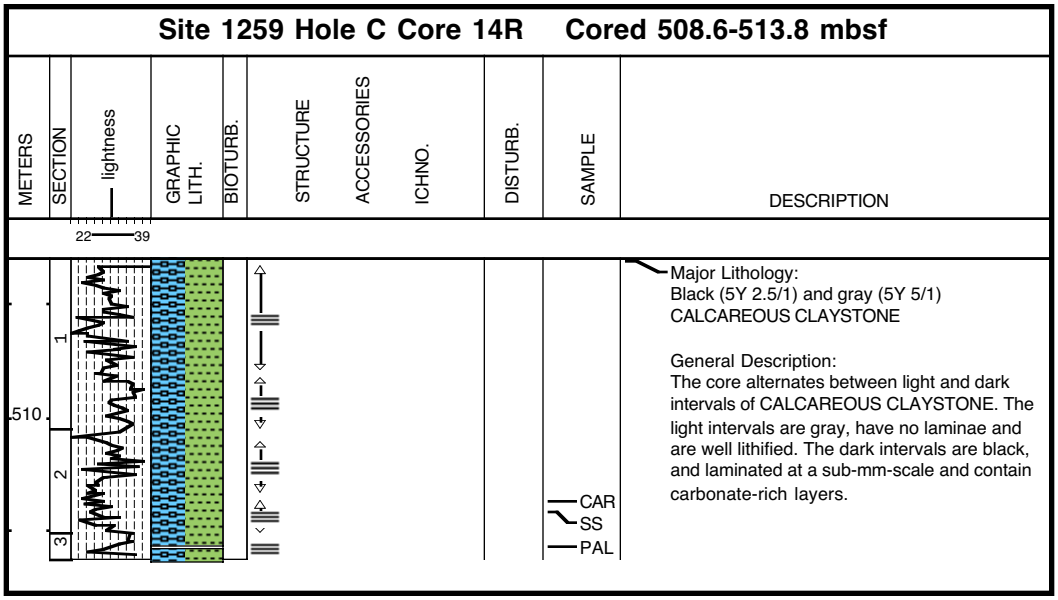
Core Photo


Site 1259 Hole C Core 12R Cored 495.4-501.6 mbsf
METERS
SECTION
lightness
15
41
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
496
498
500
1
2
3
4
5
6
GI
GI
CAR
CAR
SS
CAR
PAL
Major Lithology:
Dark olive gray (5Y 3/2) to black (5Y 2.5/2) CALCAREOUS CLAYSTONE WITH ORGANIC MATTER AND ZEOLITES
General Description:
Rare bioturbation is present in small intervals. The sediment is finely laminated and displays cyclic color cycles varying between black and dark olive gray. Phosphatic nodules are found throughout the core. Slumps with glauconitic sand are found in Section 1 at 6 cm, Section 4 40-60 cm and 90-100 cm. Section 5 is completely disturbed and slumped.
Phosphatic nodule
Phosphatic nodule
Phosphatic nodule
Phosphatic nodule

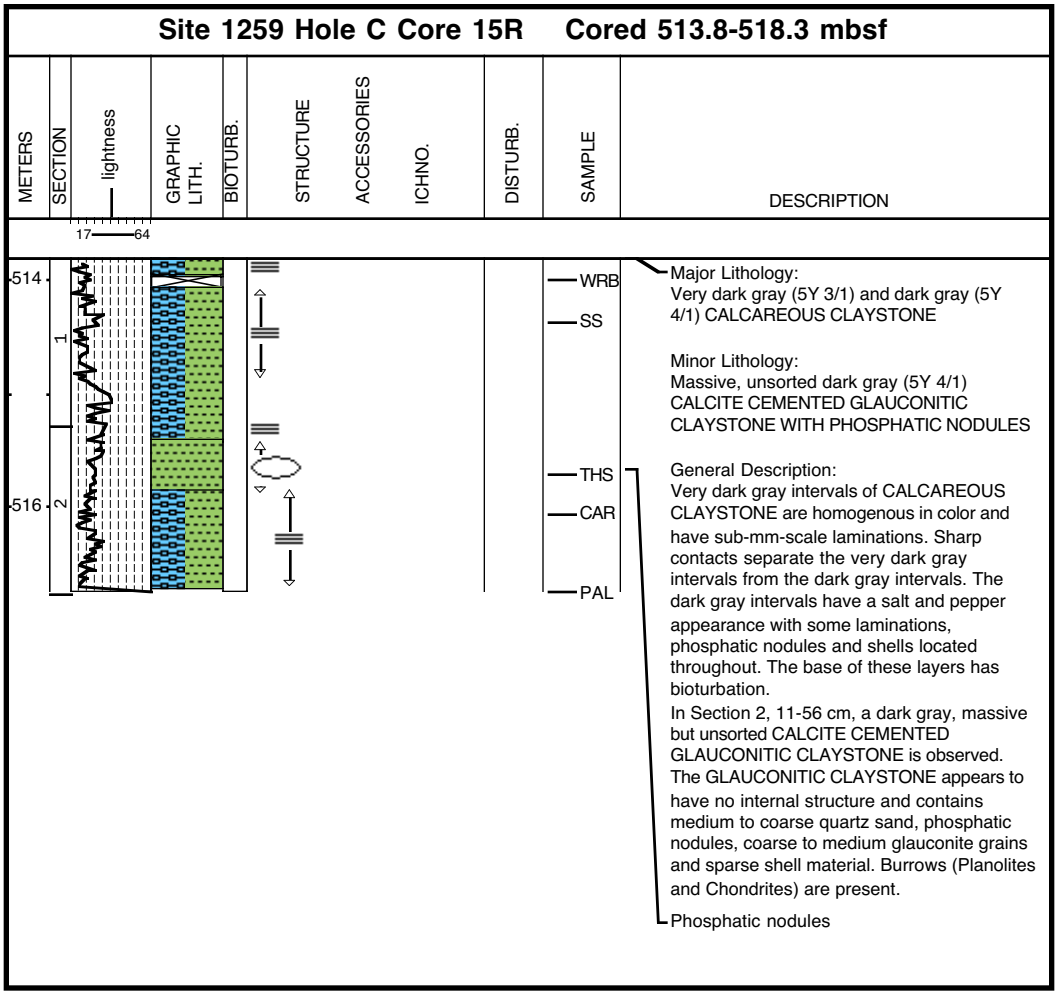
Core Photo


Site 1259 Hole C Core 13R Cored 501.6-508.6 mbsf
METERS
SECTION
lightness
20
49
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
502
504
1
2
3
4
SS
CAR
SS
PAL
Major Lithology:
Dark gray (5Y 4/1), olive gray (5Y 5/2) dark olive gray (5Y 3/2) to olive (5Y 5/3) CLAYEY CHALK WITH ORGANIC MATTER
General Description:
The core displays cyclic color patterns between olive (light) and dark olive gray (dark). The dark intervals have sub-mm-scale laminations, rare carbonate beds and phosphatic nodules. The light intervals are coarse grained and non-laminated. Section 3 contains a dark gray layer that is laminated. The CC from 18-24cm contains a laminated olive gray interval.
Phosphatic nodules
Phosphatic nodule
Phosphatic nodule
Phosphatic nodule

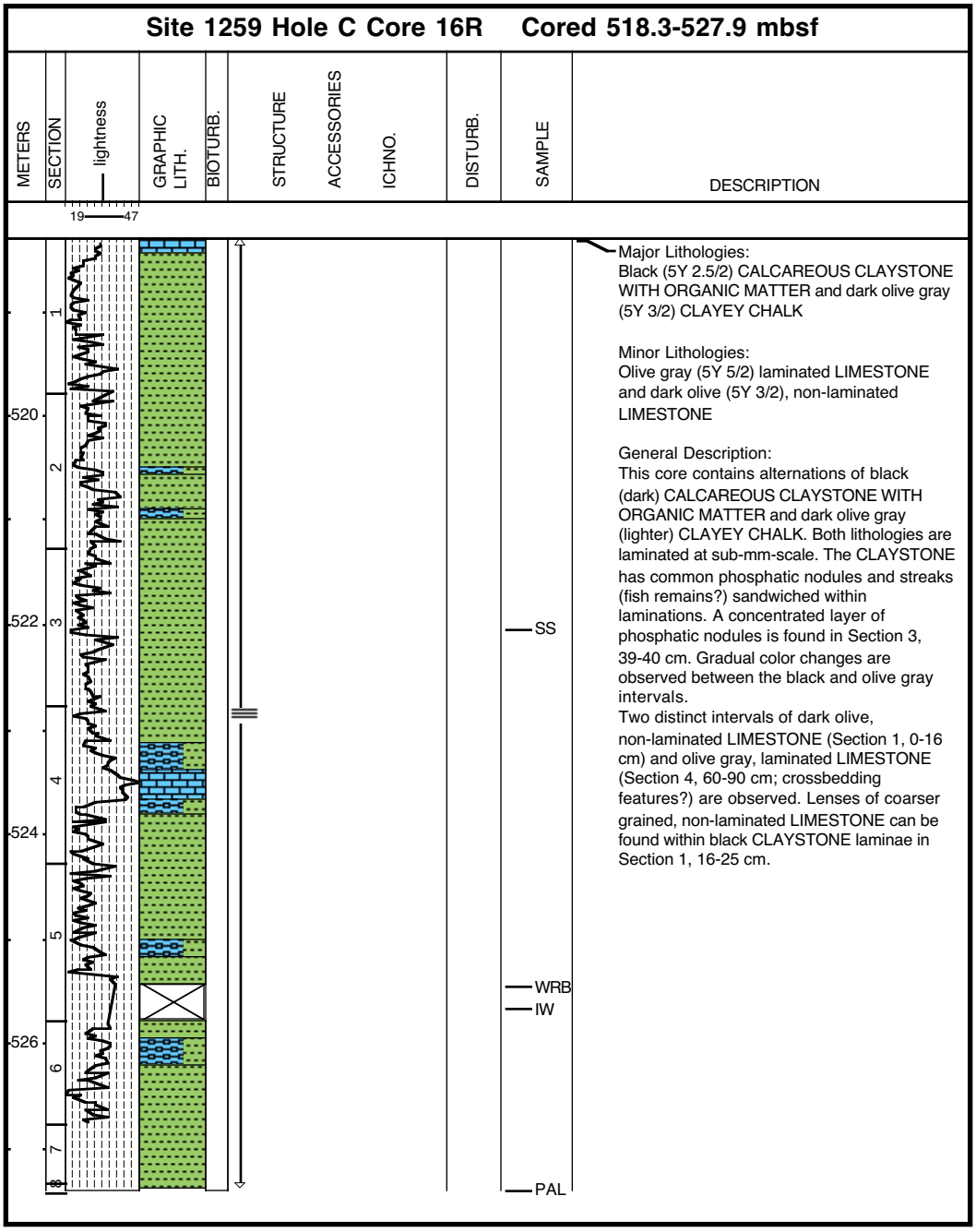
Core Photo


Site 1259 Hole C Core 14R Cored 508.6-513.8 mbsf
METERS
SECTION
lightness
22
39
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
510
1
2
3
CAR
SS
PAL
Major Lithology:
Black (5Y 2.5/1) and gray (5Y 5/1)
CALCAREOUS CLAYSTONE
General Description:
The core alternates between light and dark intervals of CALCAREOUS CLAYSTONE. The light intervals are gray, have no laminae and are well lithified. The dark intervals are black, and laminated at a sub-mm-scale and contain carbonate-rich layers.

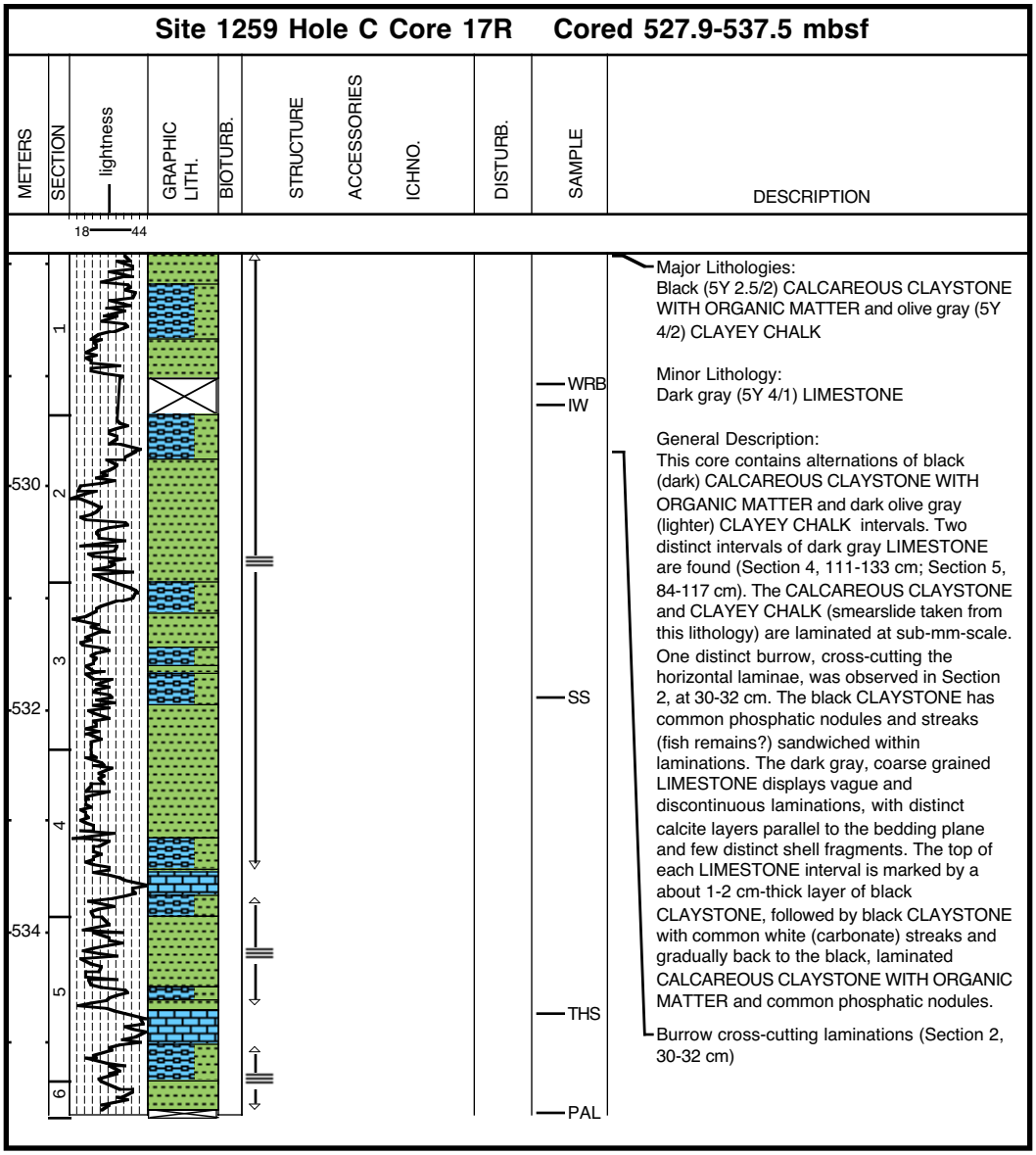
Core Photo


Site 1259 Hole C Core 15R Cored 513.8-518.3 mbsf
METERS
SECTION
lightness
17
64
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
514
516
1
2
WRB
SS
THS
CAR
PAL
Major Lithology:
Very dark gray (5Y 3/1) and dark gray (5Y 4/1) CALCAREOUS CLAYSTONE
Minor Lithology:
Massive, unsorted dark gray (5Y 4/1) CALCITE CEMENTED GLAUCONITIC CLAYSTONE WITH PHOSPHATIC NODULES
General Description:
Very dark gray intervals of CALCAREOUS CLAYSTONE are homogenous in color and have sub-mm-scale laminations. Sharp contacts separate the very dark gray intervals from the dark gray intervals. The dark gray intervals have a salt and pepper appearance with some laminations, phosphatic nodules and shells located throughout. The base of these layers has bioturbation.
In Section 2, 11-56 cm, a dark gray, massive but unsorted CALCITE CEMENTED GLAUCONITIC CLAYSTONE is observed. The GLAUCONITIC CLAYSTONE appears to have no internal structure and contains medium to coarse quartz sand, phosphatic nodules, coarse to medium glauconite grains and sparse shell material. Burrows (Planolites and Chondrites) are present.
Phosphatic nodules

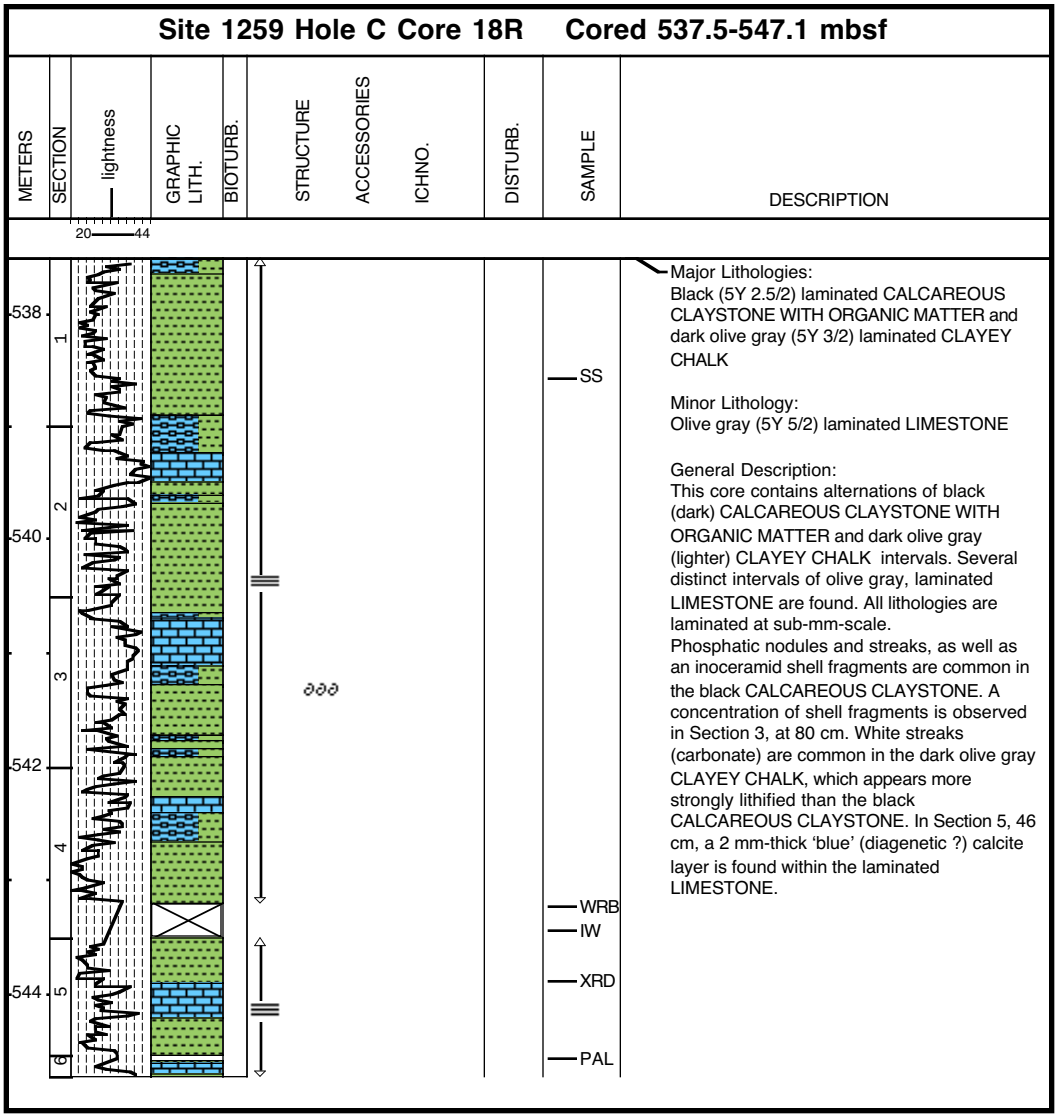
Core Photo


Site 1259 Hole C Core 16R Cored 518.3-527.9 mbsf
METERS
SECTION
lightness
19
47
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
520
522
524
526
1
2
3
4
5
6
7
SS
WRB
IW
PAL
Major Lithologies:
Black (5Y 2.5/2) CALCAREOUS CLAYSTONE WITH ORGANIC MATTER and dark olive gray (5Y 3/2) CLAYEY CHALK
Minor Lithologies:
Olive gray (5Y 5/2) laminated LIMESTONE and dark olive (5Y 3/2), non-laminated LIMESTONE
General Description:
This core contains alternations of black (dark) CALCAREOUS CLAYSTONE WITH ORGANIC MATTER and dark olive gray (lighter) CLAYEY CHALK. Both lithologies are laminated at sub-mm-scale. The CLAYSTONE has common phosphatic nodules and streaks (fish remains?) sandwiched within laminations. A concentrated layer of phosphatic nodules is found in Section 3, 39-40 cm. Gradual color changes are observed between the black and olive gray intervals.
Two distinct intervals of dark olive, non-laminated LIMESTONE (Section 1, 0-16 cm) and olive gray, laminated LIMESTONE (Section 4, 60-90 cm; crossbedding features?) are observed. Lenses of coarser grained, non-laminated LIMESTONE can be found within black CLAYSTONE laminae in Section 1, 16-25 cm.

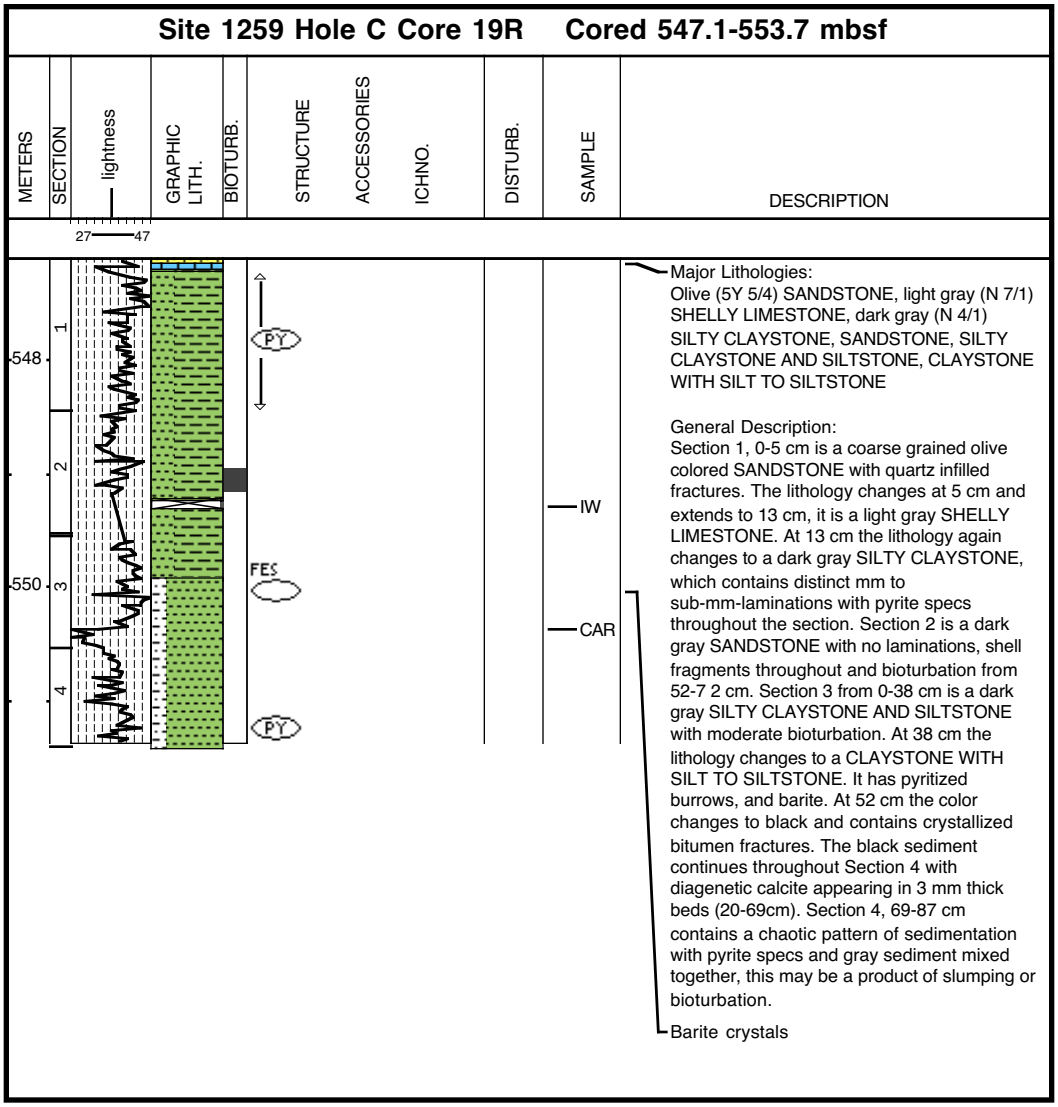
Core Photo


Site 1259 Hole C Core 17R Cored 527.9-537.5 mbsf
METERS
SECTION
lightness
18
44
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
530
532
534
1
2
3
4
5
6
WRB
IW
SS
THS
PAL
Major Lithologies:
Black (5Y 2.5/2) CALCAREOUS CLAYSTONE WITH ORGANIC MATTER and olive gray (5Y 4/2) CLAYEY CHALK
Minor Lithology:
Dark gray (5Y 4/1) LIMESTONE
General Description:
This core contains alternations of black (dark) CALCAREOUS CLAYSTONE WITH ORGANIC MATTER and dark olive gray (lighter) CLAYEY CHALK intervals. Two distinct intervals of dark gray LIMESTONE are found (Section 4, 111-133 cm; Section 5, 84-117 cm). The CALCAREOUS CLAYSTONE and CLAYEY CHALK (smearslide taken from this lithology) are laminated at sub-mm-scale. One distinct burrow, cross-cutting the horizontal laminae, was observed in Section 2, at 30-32 cm. The black CLAYSTONE has common phosphatic nodules and streaks (fish remains?) sandwiched within laminations. The dark gray, coarse grained LIMESTONE displays vague and discontinuous laminations, with distinct calcite layers parallel to the bedding plane and few distinct shell fragments. The top of each LIMESTONE interval is marked by a about 1-2 cm-thick layer of black CLAYSTONE, followed by black CLAYSTONE with common white (carbonate) streaks and gradually back to the black, laminated CALCAREOUS CLAYSTONE WITH ORGANIC MATTER and common phosphatic nodules.
Burrow cross-cutting laminations (Section 2, 30-32 cm)

Core Photo


Site 1259 Hole C Core 18R Cored 537.5-547.1 mbsf
METERS
SECTION
lightness
20
44
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
538
540
542
544
1
2
3
4
5
cc
SS
WRB
IW
XRD
PAL
Major Lithologies:
Black (5Y 2.5/2) laminated CALCAREOUS CLAYSTONE WITH ORGANIC MATTER and dark olive gray (5Y 3/2) laminated CLAYEY CHALK
Minor Lithology:
Olive gray (5Y 5/2) laminated LIMESTONE
General Description:
This core contains alternations of black (dark) CALCAREOUS CLAYSTONE WITH ORGANIC MATTER and dark olive gray (lighter) CLAYEY CHALK intervals. Several distinct intervals of olive gray, laminated LIMESTONE are found. All lithologies are laminated at sub-mm-scale.
Phosphatic nodules and streaks, as well as an inoceramid shell fragments are common in the black CALCAREOUS CLAYSTONE. A concentration of shell fragments is observed in Section 3, at 80 cm. White streaks (carbonate) are common in the dark olive gray CLAYEY CHALK, which appears more strongly lithified than the black CALCAREOUS CLAYSTONE. In Section 5, 46 cm, a 2 mm-thick 'blue' (diagenetic ?) calcite layer is found within the laminated LIMESTONE.

Core Photo


Site 1259 Hole C Core 19R Cored 547.1-553.7 mbsf
METERS
SECTION
lightness
27
47
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
DISTURB.
SAMPLE
DESCRIPTION
548
550
1
2
3
4
PY
FES
PY
IW
CAR
Major Lithologies:
Olive (5Y 5/4) SANDSTONE, light gray (N 7/1) SHELLY LIMESTONE, dark gray (N 4/1) SILTY CLAYSTONE, SANDSTONE, SILTY CLAYSTONE AND SILTSTONE, CLAYSTONE WITH SILT TO SILTSTONE
General Description:
Section 1, 0-5 cm is a coarse grained olive colored SANDSTONE with quartz infilled fractures. The lithology changes at 5 cm and extends to 13 cm, it is a light gray SHELLY LIMESTONE. At 13 cm the lithology again changes to a dark gray SILTY CLAYSTONE, which contains distinct mm to sub-mm-laminations with pyrite specs throughout the section. Section 2 is a dark gray SANDSTONE with no laminations, shell fragments throughout and bioturbation from 52-7 2 cm. Section 3 from 0-38 cm is a dark gray SILTY CLAYSTONE AND SILTSTONE with moderate bioturbation. At 38 cm the lithology changes to a CLAYSTONE WITH SILT TO SILTSTONE. It has pyritized burrows, and barite. At 52 cm the color changes to black and contains crystallized bitumen fractures. The black sediment continues throughout Section 4 with diagenetic calcite appearing in 3 mm thick beds (20-69cm). Section 4, 69-87 cm contains a chaotic pattern of sedimentation with pyrite specs and gray sediment mixed together, this may be a product of slumping or bioturbation.
Barite crystals

Sample						Texture			Mineral												Biogenic												Rock	
Core	CT	Sct	Top (cm)	Depth (mbsf)	Lithology	Sand	Silt	Clay	Barite (17)	Calcite (30)	Carbonate (35)	Clay Mineral (47)	Dolomite (62)	Feldspar (71)	Glauconite (82)	Inorganic Calcite (97)	Opaques (140)	Pyrite (169)	Quartz (172)	Zeolite (222)	Biosiliceous Remains (249)	Calcispheres (29)	Diatoms (58)	Echinoid Spine (64)	Fish Remains (74)	Foraminifers (78)	Nannofossils (132)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	Unknown (258)	calcareous debris (161)	Organic Debris Organic Matter (142)	Comments
Hole A																																	
1	R	1	6	0.06	M							30					9		1				5				30	25						Clayey nannofossil ooze
1	R	1	22	0.22	D																						65	30				5		Foraminifers nannofossil ooze
1	R	3	35	2.95	D																						70	30						Foraminifers nannofossil ooze
2	R	1	52	9.32	D																						75	25		*		*		Nannofossil ooze with foraminifers
2	R	2	55	10.85	M							15											3			2	70		10					Nannofossil ooze with clay
2	R	3	130	13.1	D																						55	40				5		Foraminifers nannofossil ooze
3	R	1	9	18.39	M											8											66	26						Foraminifers nannofossil ooze
3	R	5	130	25.6	D											3			*								82	15						Nannofossil ooze with foraminifers
5	R	1	75	37.15	D											5											69	26						Foraminifers nannofossil ooze
5	R	2	75	38.65	D	50		50								2											49	49						Foraminifers nannofossil chalk (calcareous sand)
6	R	3	45	48.95	D	45		55								4											53	43						Foraminifers nannofossil chalk (calcareous sand)
6	R	3	51.5	49.02	D	50		50								4											48	48						Foraminifers nannofossil chalk (calcareous sand)
7	R	5	61	61.21	D	50		50								4				2							47	47						Foraminifers nannofossil chalk (calcareous sand)
8	R	1	95	64.75	D	50		50								4			1	1							47	47						Foraminifers nannofossil chalk (calcareous sand)
8	R	2	30	65.6	M							97																			3			Clay
9	R	2	103	75.43	D	40		60								3	*			1							50	40	5	1				Foraminifers nannofossil chalk
9	R	5	70	79.6	D							10				3							2				60	20	5	*				Nannofossil chalk with foraminifers
10	R	2	103	85.13	D							5				4											56	30	5	*				Foraminifers nannofossil chalk
10	R	6	103	91.13	D											4				5							65	25			1			Foraminifers nannofossil chalk
11	R	2	29	94.09	M							5				5				2							68	20						Nannofossil chalk with foraminifers
11	R	2	80	94.6	D							5				5			*	2							68	20						Nannofossil chalk with foraminifers
12	R	2	50	104	D							5				4			1	1		*					69	20						Nannofossil chalk with foraminifers
12	R	5	104	109.04	M							50								49											1			Zeolite clay (HCl-residue)
13	R	1	80	112.5	D															2							72	25	1					Nannofossil chalk with foraminifers
13	R	2	135	114.55	D						2									1							77	20						Nannofossil chalk with foraminifers
13	R	3	95	115.65	M						2																83	15						Nannofossil chalk with foraminifers
13	R	5	70	118.4	M						5									2							78	15						Nannofossil chalk with foraminifers
14	R	1	70	122	D						2									1		*					77	20						Nannofossil chalk with foraminifers

Sample						Texture			Mineral												Biogenic											Rock	
Core	CT	Sct	Top (cm)	Depth (mbsf)	Lithology	Sand	Silt	Clay	Barite (17)	Calcite (30)	Carbonate (35)	Clay Mineral (47)	Dolomite (62)	Feldspar (71)	Glauconite (82)	Inorganic Calcite (97)	Opaques (140)	Pyrite (169)	Quartz (172)	Zeolite (222)	Biosiliceous Remains (249)	Calcispheres (29)	Diatoms (58)	Echinoid Spine (64)	Fish Remains (74)	Foraminifers (78)	Nannofossils (132)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	Unknown (258)	calcareous debris (161)	Organic Debris Organic Matter (142)	Comments
Hole A (continued)																																	
14	R	3	66	124.96	D						5									1							64	30						Foraminifer and nannofossil chalk
14	R	4	22	126.02	M						1									1				2	1		75	20						Nannofossil chalk with foraminifers
15	R	3	43	134.33	M														2		10	2		3			48	25				10		Nannofossil chalk with siliceous debris and foraminifers
16	R	1	75	141.35	M											2	2		1								60	20	5	5		5		Nannofossil chalk with foraminifers
16	R	3	63	144.23	D																						40	45	12	3				Nannofossil foraminifer chalk with radiolarians
17	R	1	80	151	D							5															50	20	15	5		5		Nannofossil chalk with radiolarians and foraminifers
17	R	2	51	152.21	M							3					1		1			5	*				55	15	15	5				Nannofossil chalk with radiolarians and foraminifers
18	R	1	18	159.98	D																	2	3		1		47	15	25	5		2		Nannofossil chalk with foraminifer and radiolarians
18	R	1	40	160.2	D														1			3					41	20	30				5	Radiolarian and nannofossil chalk with foraminifers
19	R	2	17	171.17	D																						45	25	25	5				Nannofossil chalk with radiolarians and foraminifers
19	R	3	15	172.35	M										1							2					49	15	30			3		Radiolarian and nannofossil chalk with foraminifers
20	R	3	15	182.35	D																	2					46	25	25	2				Nannofossil chalk with foraminifer and radiolarians
20	R	4	104.5	184.75	M																						48	25	25	2				Nannofossil chalk with radiolarians and foraminifers
21	R	3	54	192.34	M																		1				48	30	20	1				Foraminifer and nannofossil chalk with radiolarians
21	R	4	12	192.92	D																	3					50	31	15	1				Foraminifer and nannofossil chalk with radiolarians
22	R	2	45	200.45	M											10						5					50	20	5			10		Nannofossil chalk with foraminifers
22	R	4	23	203.23	D																						60	20	15	5				Nannofossil chalk with radiolarians and foraminifers
23	R	1	75	208.85	D																		*				50	25	20	5				Nannofossil chalk with foraminifer and radiolarians
24	R	1	31	218.11	D																	5	10				40	20	25					Nannofossil chalk with diatoms, foraminifers, and radiolarians
25	R	2	37	229.07	D											7						1					68	8	15	1				Nannofossil chalk with radiolarians
26	R	2	37	238.77	D							5				5			*								56	18	15	1				Nannofossil chalk with foraminifers and radiolarians
27	R	5	100	253.5	D							5				5											62	18	10	*				Nannofossil chalk with foraminifers and radiolarians
28	R	2	40	257.54	D											5											55	20	20	*				Nannofossil chalk with foraminifers and radiolarians

Sample						Texture			Mineral												Biogenic											Rock	
Core	CT	Sct	Top (cm)	Depth (mbsf)	Lithology	Sand	Silt	Clay	Barite (17)	Calcite (30)	Carbonate (35)	Clay Mineral (47)	Dolomite (62)	Feldspar (71)	Glauconite (82)	Inorganic Calcite (97)	Opaques (140)	Pyrite (169)	Quartz (172)	Zeolite (222)	Biosiliceous Remains (249)	Calcispheres (29)	Diatoms (58)	Echinoid Spine (64)	Fish Remains (74)	Foraminifers (78)	Nannofossils (132)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	Unknown (258)	calcareous debris (161)	Organic Debris Organic Matter (142)	Comments
Hole A (continued)																																	
29	R	4	60	270.9	D							5				10						*	3				60	12	10					Nannofossil chalk with foraminifers and radiolarians
30	R	2	80	277.8	D							5				10				2							63	12	8					Nannofossil chalk with foraminifers
31	R	1	64	285.74	D							5				10				10		3					52	20						Nannofossil chalk with foraminifers
32	R	1	60	295.3	D							10				10				7		*					61	12						Nannofossil chalk with foraminifers
33	R	1	24	304.64	M							15				10				*		2					60	10				3		Nannofossil chalk with clay
33	R	5	24	310.64	D							10				10				15							55	10						Nannofossil chalk with foraminifers
34	R	5	38	320.4	D							10				15			*	3							52	20						Nannofossil chalk with foraminifers
35	R	1	9.5	323.8	M					5		23			1			3	3			5					35	20				5		Nannofossil chalk with foraminifer and clay
35	R	1	62	324.32	M							5						3	2	30							30	20				10		Zeolitic and nannofossil chalk with foraminifers
35	R	2	135	326.55	D							15								10		5					40	20				10		Nannofossil chalk with zeolite, clay, and foraminifers
35	R	3	130	328	D					5		20						5	5	5		10					30	15				5		Nannofossil chalk with foraminifer and clay
35	R	4	81	328.97	D					5		5								5		3					47	30				5		foraminifer and nannofossil chalk
36	R	5	50	339.8	D							16						2		2		5					50	20				5		Nannofossil chalk with clay and foraminifers
37	R	1	50	343.5	D						5	20								2							58	15	*					Nannofossil chalk with foraminifers and clay
37	R	2	140	345.9	M						10	40								2							43	5						Clayey nannofossil chalk with calcium carbonate
37	R	6	92	351.42	D					5		25								1							55	14						Nannofossil chalk with foraminifers and clay
38	R	1	71	353.31	D					15		40			*					2		1					32	10						Nannofossil clay with foraminifers and calcite
38	R	4	81	357.91	D					20		40								2							33	5						Nannofossil clayey with calcite
38	R	5	17	358.77	M					10		30								5							35	20						Nannofossil and clay chalk with calcite and foraminifers
39	R	1	65	362.85	D							20							1	1							60	15				3		Nannofossil chalk with foraminifers and clay
39	R	4	85	366.2	D							12						5		2					1		50	25				5		Nannofossil chalk with clay and foraminifers
39	R	5	115	368	D					8		39								5		8					20	10	*			10		Clay with foraminifer and nannofossils
39	R	5	130	368.15	M					5		45								5		5					20	10				10		Clay with foraminifers and nannofossils
39	R	5	138	368.23	M							40								15		8					20	2	*			15		Clay with nannofossils
39	R	5	142	368.27	M						2	92															5	1						Claystone

Sample						Texture			Mineral												Biogenic											Rock	
Core	CT	Sct	Top (cm)	Depth (mbsf)	Lithology	Sand	Silt	Clay	Barite (17)	Calcite (30)	Carbonate (35)	Clay Mineral (47)	Dolomite (62)	Feldspar (71)	Glauconite (82)	Inorganic Calcite (97)	Opaques (140)	Pyrite (169)	Quartz (172)	Zeolite (222)	Biosiliceous Remains (249)	Calcispheres (29)	Diatoms (58)	Echinoid Spine (64)	Fish Remains (74)	Foraminifers (78)	Nannofossils (132)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	Unknown (258)	calcareous debris (161)	Organic Debris Organic Matter (142)	Comments
Hole A (continued)																																	
39	R	5	145	368.3	D					2		45								5					*		25	13				10		Clay with foraminifers and nannofossils
40	R	1	77	372.57	M					5		25						2		2							45	10	1			10		Nannofossil chalk with foraminifers and clay
40	R	2	100	374.3	D					6		20						2		2		3					50	5	2			10		Nannofossil chalk with clay
41	R	1	23	381.63	D					5		20						3	1	1		5			*		60	5						Nannofossil chalk with clay
41	R	CC	5	381.73	D					2		26						5	1	5					1		50	5				5		Nannofossil chalk with clay
43	R	3	108	404.78	D					3		37						1		1		1					50	5				2		Clayey nannofossil chalk
44	R	2	73	412.63	D					2		41								2							50	5						Clayey nannofossil chalk
45	R	1	80	420.8	D					5		50							2	5							30	3				5		Nannofossil clay
45	R	4	29	424.19	D					3		50						3	2	4					2		30	2				4		Nannofossil clay
45	R	4	56	424.46	M					5		51						4	2								25	10				3		Nannofossil clay with foraminifers
46	R	4	68	434.09	D					7		25					3			3							49	12				1		Nannofossil chalk with clay and foraminifers
47	R	1	40	439.6	D					40		30							*	6		*					9	15						Clayey carbonate with foraminifers
47	R	3	40	441.98	M					10		60							*			10					5	15						Clay with calcite and foraminifers
47	R	3	60	442.18	M					3		42								2		30					3	20						Calcareous dinoflagellate clay with foraminifers
47	R	3	71	442.29	M					3		74					10		*			*					8	5						Clay
47	R	3	71.5	442.3	M							90																				10		Clay
47	R	3	72	442.3	D					5									1	3							65	26						Foraminifer nannofossil chalk
47	R	3	110	442.68	D					5		5								*							75	10				5		Nannofossil chalk
48	R	5	54	455.34	D					5		15							2	1							47	5				25		Calcareous debris/nannofossil chalk with clay
49	R	4	72	463.45	D							20															20	10				50		Calcareous siltstone (calcareous debris chalk with nannofossils
50	R	2	55	470.05	D							10							2								10	10				68		Calcareous siltstone (calcareous debris chalk)
51	R	6	41	485.48	D					30		35							1	1							2	15				16		Clayey calcareous siltstone
52	R	2	60	489.07	D							40			5			5	20						5		20	5						Claystone with quartz and nannofossil
52	R	4	91	492.23	M							14		1	10			10	30						10		20	5						Quartz arenite with glauconite, pyrite, fish remains, clay, and nannofossil
52	R	4	101	492.33	D				*			37			5			3	10						5		30	10				*		Nannofossil clayey with quartz and foraminifer
52	R	4	144	492.76	D							33			15				10						10		30	2						Nannofossil clayey with quartz, fish debris, and glauconite
52	R	6	33	493.93	D						5	14			5			5		1					5		40	25						Nannofossil chalk with clay and foraminifers
52	R	6	99	494.59	D					10		18							2	5					5		40	15					5	Nannofossil chalk with foraminifers and clay

Sample						Texture			Mineral												Biogenic											Rock	
Core	CT	Sct	Top (cm)	Depth (mbsf)	Lithology	Sand	Silt	Clay	Barite (17)	Calcite (30)	Carbonate (35)	Clay Mineral (47)	Dolomite (62)	Feldspar (71)	Glauconite (82)	Inorganic Calcite (97)	Opaques (140)	Pyrite (169)	Quartz (172)	Zeolite (222)	Biosiliceous Remains (249)	Calcispheres (29)	Diatoms (58)	Echinoid Spine (64)	Fish Remains (74)	Foraminifers (78)	Nannofossils (132)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	Unknown (258)	calcareous debris (161)	Organic Debris Organic Matter (142)	Comments
Hole A (continued)																																	
53	R	1	49	497.49	M					3		7			20			10	3	10					7		30	10					Nannofossil and glauconite chalk with fish remains, foraminifers, zeolite, and pyrite
53	R	2	27	498.77	D					5		30						5	2	10					3		5	30				10	Foraminifer and clay with zeolite and organic matter
53	R	3	90	500.9	D					5		21								3					5		30	30	1			5	Nannofossil and foraminifer claystone
54	R	1	68	507.28	D					5		30						10	2	5					3		20	20				5	Claystone with pyrite, nannofossils, and foraminifers
54	R	3	27	509.87	D					50		13	15					5	2						5		5	5					Limestone
55	R	2	89	512.94	D					2		55					*		1	1					1		10	15				15	Claystone with nannofossils, foraminifers, and carbonate
55	R	3	61	513.62	D					15		50			*		1			1							5	5			15	8	Calcareous claystone with carbonate
56	R	1	37	516.17	M					10		47					1			1					*		8	5			20	8	Calcareous claystone with nannofossils
56	R	2	111	518.27	M					20		42			5		2			5					1		5	15				5	Calcareous claystone with foraminifers
57	R	1	113	521.43	D							37						10		5	5				3		10	20	5			5	Claystone with nannofossils, pyrite, and foraminifers
57	R	3	30	523.6	M					89								3	2						2			1				3	Limestone
57	R	5	120	527.5	M						5	62	2					5	2	10							2	2				10	Claystone with carbonate and zeolite
58	R	1	77	530.67	D					15		28	5					10	2	5							10	20				5	Claystone with nannofossils, pyrite, calcite, and foraminifers
58	R	1	97	530.87	D							72						10		2					1							15	Claystone with pyrite and carbonate
58	R	3	107	533.58	D					73		20	5					2															Limestone with clay
59	R	1	108	540.58	D				*	5		35						5	5	10	5				5		10	10				10	Claystone with carbonaceous nannofossils, foraminifers, and zeolite
59	R	4	107	544.9	M				5	55		10	10					5			5				10								Limestone with dolomite, clay, and fish remains
59	R	5	109	546.23	D					3		54						10		10					2		10	1				10	Claystone with zeolite, pyrite, nannofossils, and carbonate
59	R	CC	19	546.61	M					10		27						20	5	5					3		20	10					Claystone with calcite, foraminifers and nannofossils

Sample						Mineral														Biogenic									Rock			
Core	CT	Sct	Top (cm)	Depth (mbsf)	Lithology	Barite (17)	Calcite (30)	Carbonate (35)	Clay Mineral (47)	Clinoptilolite (48)	Dolomite (62)	Feldspar (71)	Glauconite (82)	Opaques (140)	Pyrite (169)	Quartz (172)	Unspecified Minerals (218)	Zeolite (222)	Calcispheres (29)	Fish Remains (74)	Foraminifers (78)	Nannofossils (132)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	calcareous debris (161)	Micrite (119)	Organic Debris Organic Matter (142)	Siliceous Fragments (184	Comments
Hole B																																
1	R	1	5	0.05	M				40							10					10	30				10				Nannofossil and clay ooze with quartz, foraminifers, and calcareous debris
1	R	1	15	0.15	M				35												15	50								Clay and nannofossil ooze with foraminifers
1	R	1	35	0.35	D		3		17							2			3		20	55								Foraminifer and nannofossil ooze with clay
2	R	1	36	305.36	M		10		45		1					1		3			10	30								Nannofossil and clay chalk with calcite and foraminifers
2	R	1	55	305.55	D		5		20							2		5	3		25	40								Foraminifer and nannofossil chalk with clay
2	R	2	108	307.58	M		5		35									5	5		10	40								Clay and Nannofossil chalk with foraminifers
4	R	2	33	326.03	D		20		40									20			10	10								Clayey chalk with zeolite
5	R	3	78	337.58	D		15		10							*			3		10	42					20			Nannofossil chalk
6	R	2	78	345.68	D		30		10							*					15	45								Nannofossil chalk with foraminifers
7	R	5	40	359.5	D		20		10							*			1		15	54								Nannofossil chalk with foraminifers
8	R	2	74	364.94	D		35		10	2						*			1		17	35								Nannofossil chalk with foraminifers
8	R	4	95	368.15	M				99							*		1												Clay
8	R	4	107.5	368.28	D		44		6									3			3	44								Nannofossil chalk
10	R	2	98	422.98	D		20		20												10	50								Nannofossil chalk with clay
11	R	1	56	430.66	D		15		25										1		8	30					21			Nannofossil chalk with clay
12	R	3	81	443.51	D		8		51									2	4		30	5								Foraminifer claystone
13	R	6	65	452.86	D		15		30	5						*					25	25								Clayey chalk
14	R	3	123.5	458.54	D		10		22		1					1		1	*		40	10					15			Foraminifer chalk with clay
15	R	1	31	462.21	D			10	28							1		5		1	10	40				5				Clay and nannofossil chalk with foraminifers and calcite
15	R	1	37	462.27	D			30	47		2					2		2			2	10				5				Calcareous claystone with nannofossils
16	R	1	59	472.09	D			20	52						2	2		15			2	2				5				Claystone with zeolite and calcite
16	R	1	66	472.16	D			20	27		3					3		2			20	25								Clay calcareous and nannofossil chalk with foraminifers
16	R	3	35	474.85	M			15	17				1		2	5		20			10	20				10				Zeolitic and nannofossil chalk with foraminifers and calcite
17	R	1	140	477.9	M			5	25						3	2		15			5	20				15	10			Nannofossil and clay chalk with zeolite and calcite
17	R	2	140	479.4	D			24	25						8	3					10	20				10				Calcareous claystone with foraminifers and nannofossils
18	R	1	35	486.25	D			5	33						10			5		2	10	35								Clay and nannofossil chalk with pyrite and foraminifers
18	R	4	55	490.95	D			5	40			*	1		2	10		3		4	5	30								Nannofossil claystone with quartz
18	R	7	23	494.22	M			2	28				5		15	10				5	10	25								Clay and nannofossil chalk with quartz, foraminifers, and pyrite
18	R	7	89	494.88	D	*		5	28				5		10	2		10		5	10	25								Nannofossil and clay chalk with pyrite, zeolite, and foraminifers
18	R	CC	0	495.49	M		3		41		3	*	30			5					3	15								Glauconite claystone with nannofossils
19	R	1	13	495.63	M			10	5				10		5	5				5	20	35						5		Nannofossil chalk with calcareous glauconite and foraminifers
19	R	1	80	496.3	D			15	24						10	5		3		3	15	20						5		Nannofossil and clay chalk with zeolite, calcite, and foraminifers

Sample						Mineral														Biogenic									Rock			
Core	CT	Sct	Top (cm)	Depth (mbsf)	Lithology	Barite (17)	Calcite (30)	Carbonate (35)	Clay Mineral (47)	Clinoptilolite (48)	Dolomite (62)	Feldspar (71)	Glauconite (82)	Opaques (140)	Pyrite (169)	Quartz (172)	Unspecified Minerals (218)	Zeolite (222)	Calcispheres (29)	Fish Remains (74)	Foraminifers (78)	Nannofossils (132)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	calcareous debris (161)	Micrite (119)	Organic Debris Organic Matter (142)	Siliceous Fragments (184	Comments
Hole B (continued)																																
20	R	2	38	506.48	D	*		35	37											2	20	5						1		Calcareous claystone with foraminifers
21	R	1	49	515.29	D			10	28						10	2				5	20	20						5		Claystone with pyrite, calcite, foraminifers, and nannofossils
22	R	1	29	524.69	M			3	72						1	3		2		10		2						2	5	Claystone with fish debris
22	R	1	87	525.27	D			5	64						2			3			3	10				10		3		Claystone with calcite and nannofossils
22	R	3	140	528.8	M			3	82						5			3		2								5		Claystone
23	R	1	134	535.34	D			5	63						2						15	5						5	5	Claystone with foraminifers
24	R	4	44	548.54	M	*		5	15				*		25	50	3											2		Pyrite and quartz sandstone with clay
24	R	4	79	548.89	M	*		5	53						15	20				2								5		Claystone with pyrite and quartz
25	R	1	5	553.25	M	*		10	25					5	10	40												10		Quartz claystone with calcareous pyrite and organic matter
25	R	1	60	553.8	M	3		10	29		3			5	10	30												10		Quartz claystone with calcareous organic matter and pyrite
25	R	2	111	555.81	M	2	5	5	35					5	15	25									3			5		Quartz claystone with pyrite

Sample						Mineral									Biogenic									Rock		
Core	CT	Sct	Top (cm)	Depth (mbsf)	Lithology	Calcite (30)	Carbonate (35)	Clay Mineral (47)	Dolomite (62)	Opaques (140)	Pyrite (169)	Quartz (172)	Zeolite (222)	Calcispheres (29)	Dinoflagellate (59)	Fish Remains (74)	Nannofossils (132)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	calcareous debris (161)	Organic Debris Organic Matter (142)	Siliceous Fragments (184)	Comments
Hole C																										
1	R	1	81	308.81	D	10	10	12					11	2			3	52						Foraminifer chalk with zeolite
2	R	5	58	324.18	D	20	10	15					12	1			25	17						Nannofossil chalk with zeolite, clay, and foraminifers
3	R	2	49	329.19	D	15	10	20					3	2			30	20						Nannofossil chalk with clay
4	R	6	49	343.19	M	10	15	23					1	1			30	20						Nannofossil chalk with carbonate, foraminifers, and clay
5	R	2	80	347.10	D			29					5	1			30	20			15			Clayey nannofossil chalk with carbonate debris and foraminifers
6	R	5	61	361.01	D			43					5	1			28	15			8			Nannofossil claystone with foraminifers
7	R	1	57	364.57	D	5		39			1	2	1	2			35	10			5			Nannofossil claystone
7	R	2	4	365.39	D	5		39			2		2				30	12			10			Nannofossil clayey chalk with carbonate debris and foraminifers
7	R	2	90	366.25	D	5		65					2	3		*	10	15	*					Claystone with nannofossils and foraminifers
7	R	2	103	366.38	M	3		73					2	5		*	8	1	5	*			3	Claystone
7	R	2	112	366.47	M			80					2				5		3				10	Claystone
8	R	2	3	437.53	D		30	3			2	2	3				30	20			10			Calcareous and nannofossil chalk with foraminifers
8	R	2	21	437.71	M		10	17			5	3	15				20	15			15			Calcareous chalk with zeolite, foraminifers, clay, and nannofossils
8	R	4	5	440.55	D		5	34					15			1	25	10			10			Nannofossil claystone with foraminifer calcareous debris and zeolite
8	R	4	60	441.10	D		10	45	2			5	3				5	20			5		5	Claystone with carbonate and foraminifers
8	R	5	58	442.07	M		5	63			1	2	2				2	20					5	Claystone with foraminifers
8	R	5	76	442.25	M		5	53				2	5				10	25						Claystone with foraminifers and nannofossils
8	R	5	92	442.41	M		2	66		5			3	3		1	10	10						Claystone with foraminifers and nannofossils
8	R	5	100	442.49	M			65		20							10	5						Claystone with nannofossils and opaque minerals
8	R	5	134	442.83	D	8		47			1	2	2				30	10						Nannofossil claystone with foraminifers
10	R	3	18	487.83	D	30	2	30		2		3	1				30	2						Clayey nannofossil chalk
11	R	2	17	491.07	D	10		44		3		*	15				10	5			2	11		Claystone with organic matter and zeolite
12	R	3	73	499.13	D	10	*	39			3		12				10	15				11		Calcareous claystone with organic matter and zeolite
13	R	3	112	505.72	D	20	7	37		2	1		2				5	10			5	11		Clayey chalk with organic matter
14	R	2	72	510.82	D	20	3	49			4		4		2	*	10	8						Calcareous claystone
15	R	1	55	514.35	D	20	5	46			1						10	10				8		Calcareous claystone
16	R	3	74	522.02	D	20		45			4		4	*			10	6				11		Calcareous claystone with organic matter
17	R	3	102	531.88	D	25	8	30			3		3				20	6				5		Clayey chalk
18	R	1	104	538.54	D	2		45	1		3		5				20	3			6	15		Calcareous claystone with organic matter

Sample								Mineral													Biogenic										Rock									
Cor	CT	Sct	Top (cm)	Bot (cm)	Depth (mbsf)	Thin Section Number	Lithology	Calcite	Clay	Inorganic Calcite	Feldspar	Glauconite	Fe-oxide	Opaque Minerals	Pyrite	Quartz	Zeolite	Zircon	Fish Remains	Bioclast	Nannofossils	Foraminifers	Planktonic Foraminifer	Benthic Foraminifers	Radiolarians	Organic Debris	Shell Fragments	Microfossils	Cement	Micrite	Sparite	Lithic Fragments	Siliceous Matrix	Organic Matter		Lithology	Comments
Hole A																																							
26	R	3	121	124	241.11	76	D		12	35										1		50		1	1										100	Foraminifer packstone	Foraminifers are mainly filled with micrite, rarely with blocky calcite. Foraminifers are transported/winnowed. Small ones filling the space between big ones. Bioclasts are shell fragments. Micrite is matrix or cement.
30	R	4	49		53.00	77	D		10	35							3	3				50			2										103	Foraminifer sand	Foraminifers filled with blocky calcite or probably broken out, empty-rare zeolite growth in chambers
38	R	CC	0	5	359.24	31	D		35					1		2	12							8						42					100	Clayey carbonate wackestone with zeolite	In broken piece out of nannofossil molds. Micrite includes nannofossils.
49	R	1	55	57	458.95	78	D		9										1	*			50							40					100	Foraminifer wackestone to packstone	Foraminifers are filled with sparite, matrix (clayey) micrite. Bioclasts are bivalve shells.
55	R	3	27	29	513.28	79		44	30						1				1									14					10	10	110		
59	R	4	110	113	544.93	81	D		20				*			*		*	5				50							15			10	10	110	Clayey limestone (with organic matter and clay)	The analyses show that total organic matter accounts for approximately 5% to 10%. 30% of micrite is clay and organic matter, 15% micritic (nannofossil) fecal pellets.
59	R	CC	19	22	546.61	80	D		10						3	*			1			8								75			3	3	103	Calcareous Wackestone	Distinctly laminated. Micritic matrix consists of fecal pellets and is microsparitic.
60	R	1	21	23	549.31	82	D		25							50					*									25						Quartz arenite	Quartz grains are predominantly angular to subangular. Some show undulous extinction. No quartz overgrowth is seen, except for rare concave/convex contacts. Matrix/cement is 25% clay and 25% micrite. Nannofossil fragments are present in cement.
Hole B																																							
24	R	4	38	40	548.48	105	M		5							15			*	30											50				100	Bioclastic limestone	Angular quartz. Bioclasts are with neomorphic spar.
24	R	4	49	52	548.59	99	D	5	10						15	65													5						100	Quartz arenite with opaque minerals	Angular quartz. Calcite is large diagenetic calcite. Cement is carbonate.
24	R	5	56	58	550.16	100	D		10					8		18			*	30				1							33				100	Bioclastic limestone with quartz	Bioclasts are mainly replaced by neomorphic spar, including echinoids, bivalve shells, gastropods. Sparite is microsparic cement.

Sample								Mineral												Biogenic												Rock								
Cor	CT	Sct	Top (cm)	Bot (cm)	Depth (mbsf)	Thin Section Number	Lithology	Calcite	Clay	Inorganic Calcite	Feldspar	Glauconite	Fe-oxide	Opaque Minerals	Pyrite	Quartz	Zeolite	Zircon	Fish Remains	Bioclast	Nannofossils	Foraminifers	Planktonic Foraminifer	Benthic Foraminifers	Radiolarians	Organic Debris	Shell Fragments	Microfossils	Cement	Micrite	Sparite	Lithic Fragments	Siliceous Matrix	Organic Matter		Lithology	Comments
Hole B (continued)																																								
24	R	5	84	88	550.44	101		45	20					20		15																				100	Diagenetic limestone with clay, opaque minerals and quartz	Opaque minerals include pebbles of pyrite. 20% of calcite is beef calcite, 25% is other diagenetic calcite.
25	R	1	47	51	553.67	102	D	19	30		*			26		25																*				100	Partially pyritized quartz wacke to quartz arenite	Opaque minerals include areas with pyrite replacing matrix. Calcite is diagenetic.
25	R	1	113	117	554.33	103	D		46					10		25										1	*			15	3				100	Quartz wackestone (silt-sized)	Very fine to extremely fine-grained quartz wacke.
25	R	2	26	30	554.96	104	D	2	20					1		38				6				*						3	30	3			103	Very fine-grained quartz sandstone (wackestone)	Bioclasts include echinoid fragments. Lithic fragments include quartzite and chert. Large crystals of diagenetic calcite incorporating quartz.
Hole C																																								
11	R	3	11	13	492.04	106	D		20			6		10		4			3				2							55					100	Chalk with clay	Distinctly glauconitic.
11	R	4	19	21	493.62	107	M	2	20		*	27		4		3			5			4				3				30			2		100	Glauconitic claystone	Diagenetic blocky calcite. Opaque minerals include several ~1mm pyrite nodules). Micrite is background matrix. Foraminifers are mainly fragments.
15	R	2	42	45	515.72	108			10			10		2					25				10			2			5	36					100	Calcareous phosphorite with glauconite and foraminifer	Microspar matrix. Cement is sparite. One big benthic foraminifer among planktonic foraminifers. Fish remains.
17	R	5	86	90	534.72	109	D		16					3					2	2			50							25				2	100	Foraminifer wackestone with foraminifer packstone patches	Micrite background. Bioclasts are long very thin shells.