

BERMUDA PEDESTAL

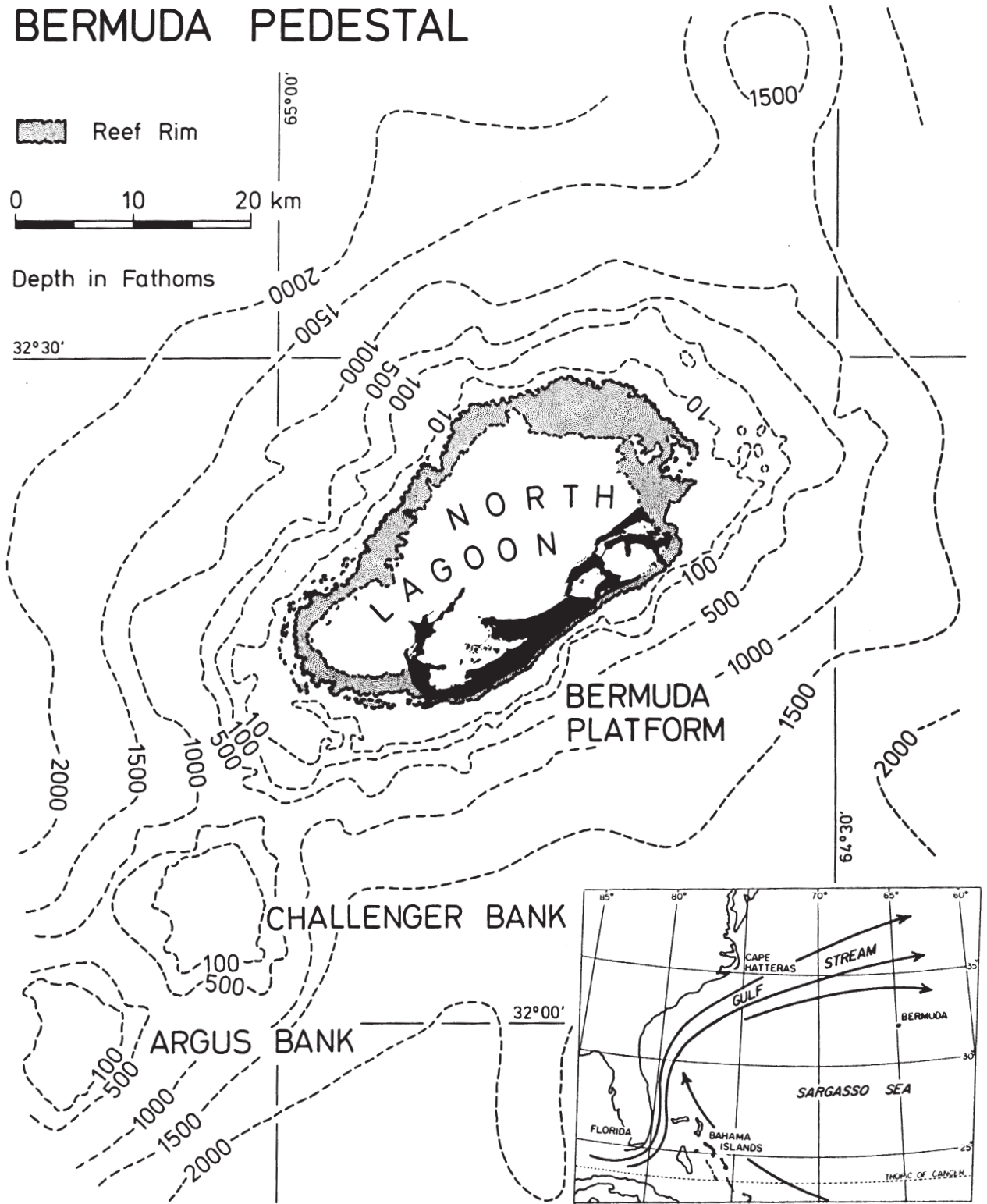


Abb. 1: Bermuda Pedestal (Übersichtskarte, Sargasso See; aus GARRETT et al., 1971)

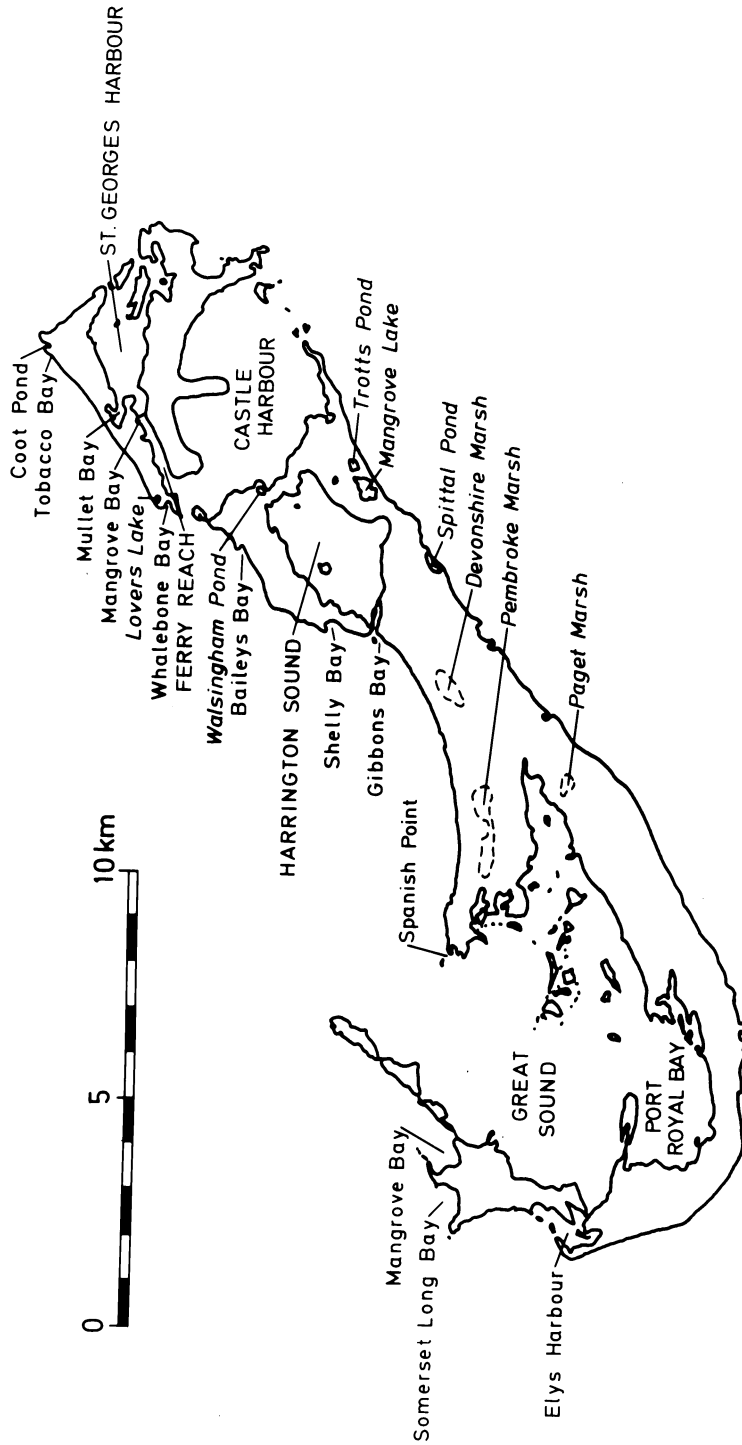


Abb. 2

Abb. 2: Bermuda Islands und Inshore Waters

Abb. 3

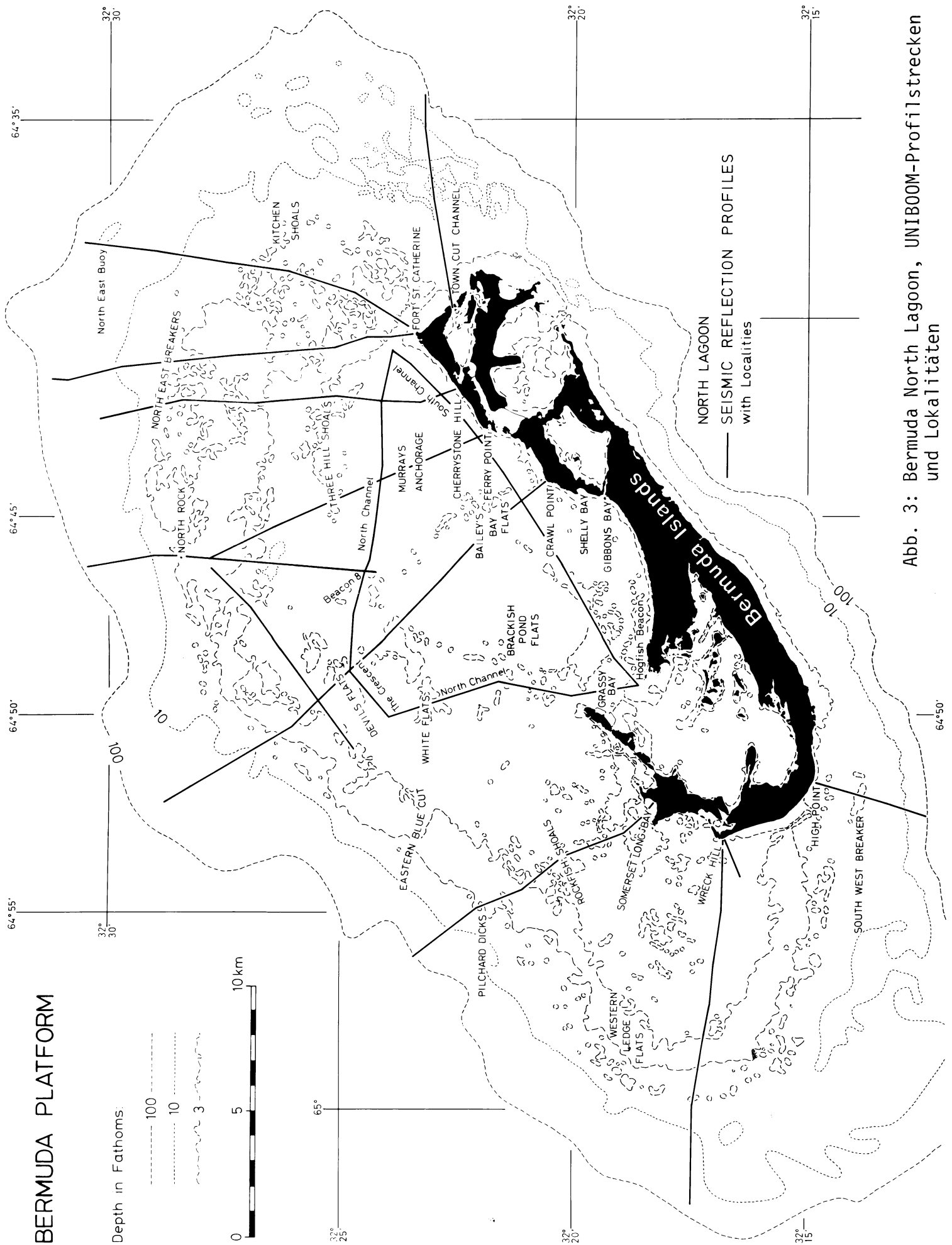


Abb. 3: Bermuda North Lagoon, UNIBO0M-Profilstrecken und Lokalitäten

Abb. 4

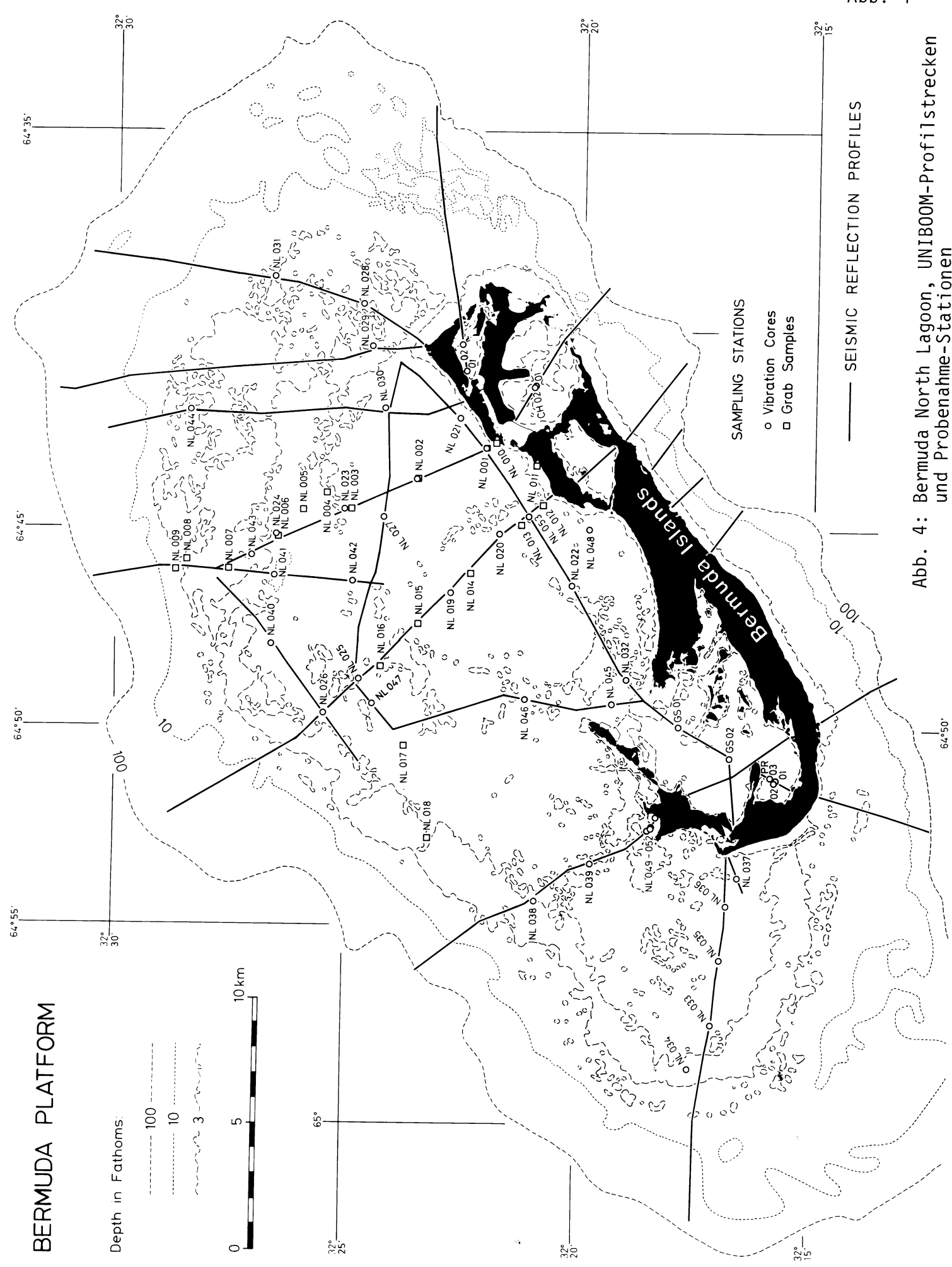
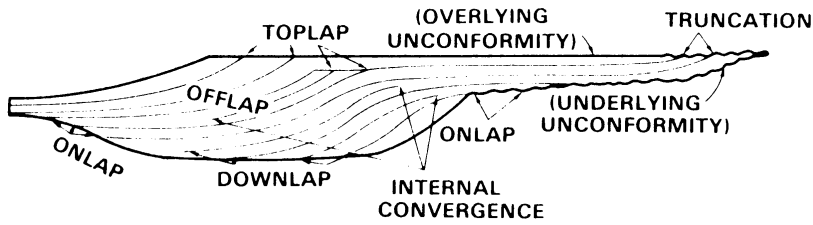
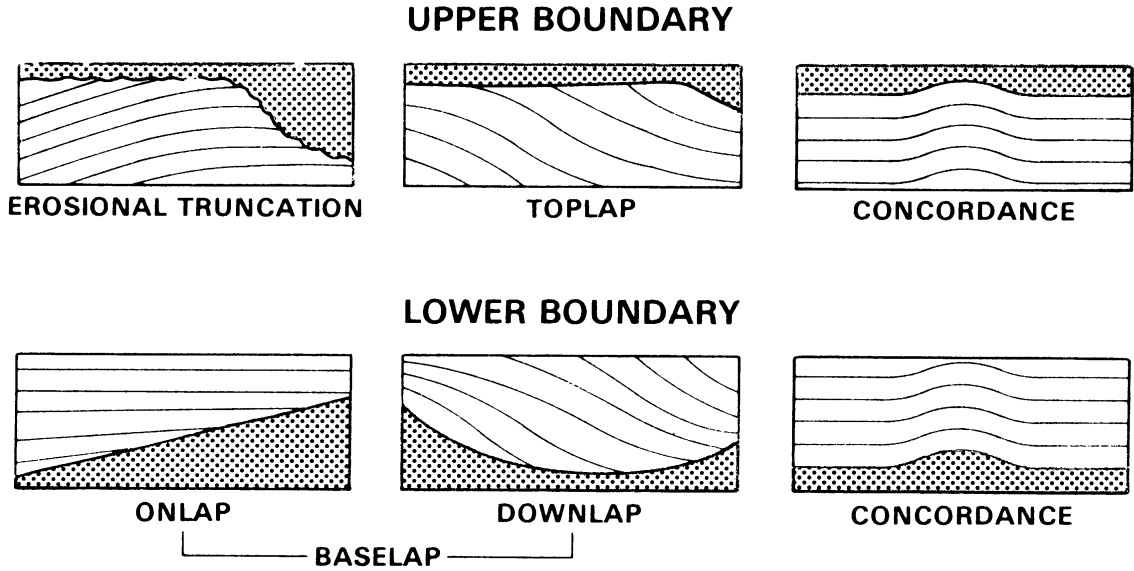


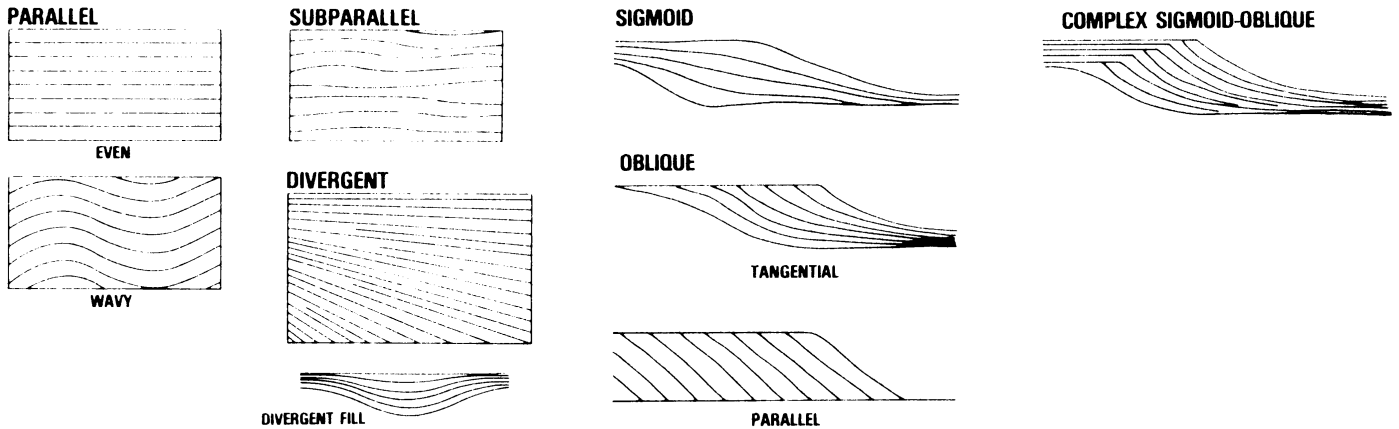
Abb. 4: Bermuda North Lagoon, UNIB00M-Profilstrecken und Probenahme-Stationen



Seismic stratigraphic reflection terminations within idealized seismic sequence.



Relations of strata to boundaries of depositional sequences:



Parallel, subparallel, and divergent seismic reflection configurations.

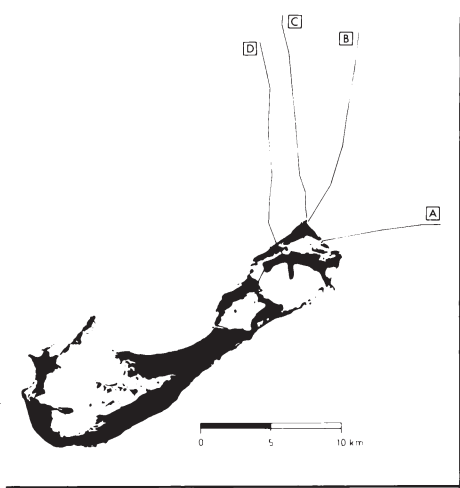
Seismic reflection patterns interpreted as prograding clinoforms.

Abb. 5: Grenzflächen seismischer Sequenzen und seismische Reflexionsmuster (aus: MITCHUM, VAIL & THOMPSON, 1977; MITCHUM, VAIL & SANGREE, 1977)

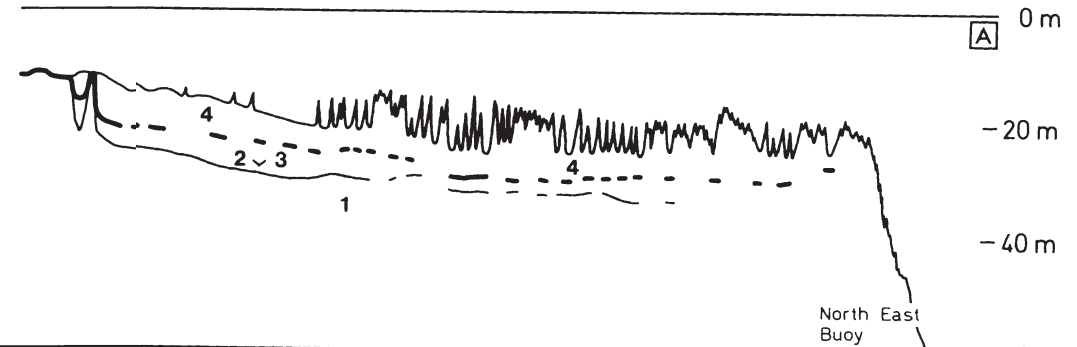
LEGEND

- Lower boundary of Holocene sequence
- Boundaries of Pleistocene sequences and strong reflections
- 1 Seismic sequence (2 v 3 2 or 3)
- | Vibration core
- NL 001 Station

Abb. 6: Legende zu den Abbildungen 7 bis 10

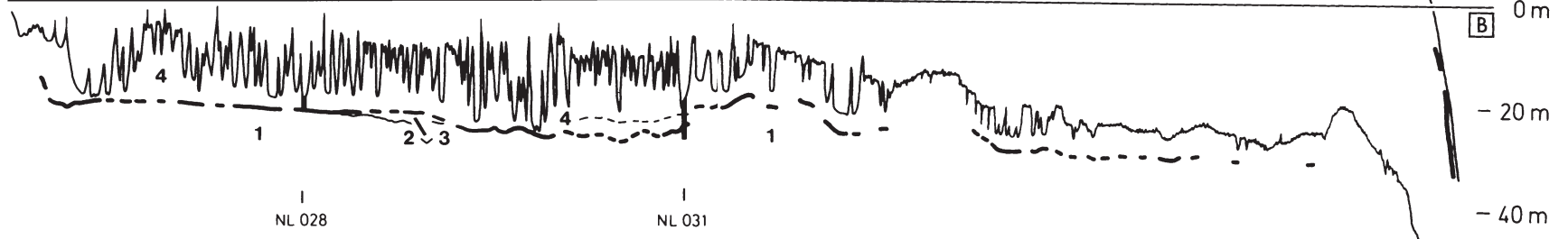


Town Cut Channel



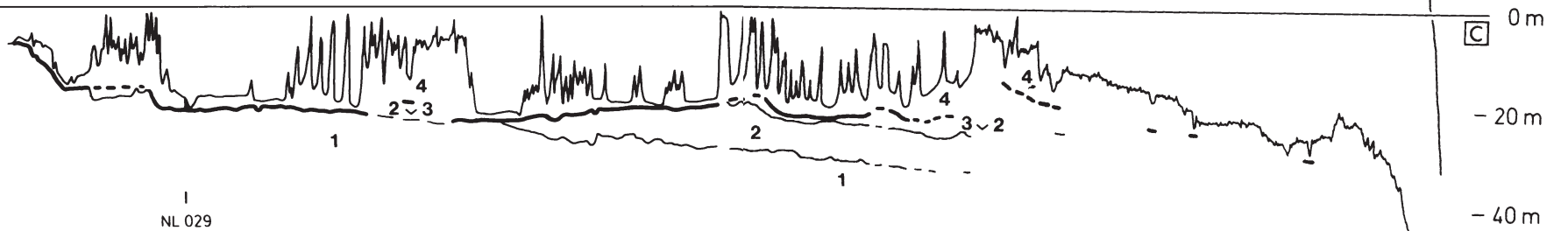
Fort St. Catherine

North East Buoy



Fort St. Catherine

North East Breakers



Cherrystone Hill

Three Hill Shoals

North East Breakers

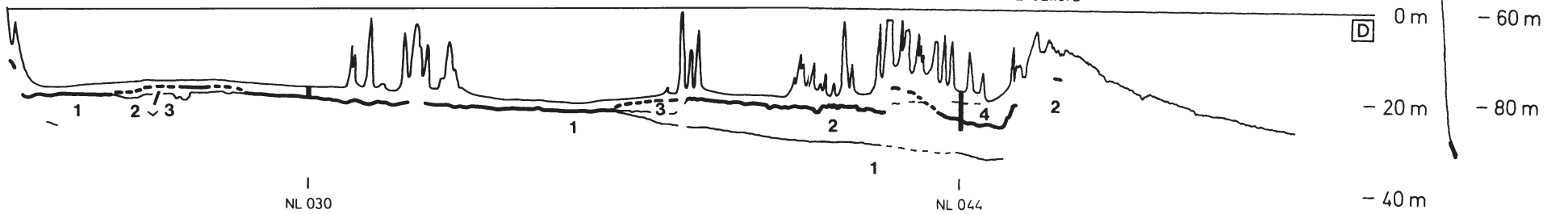


Abb. 7: Seismische Sequenzen der Bermuda North Lagoon (nordöstlicher Teil)



Abb. 8

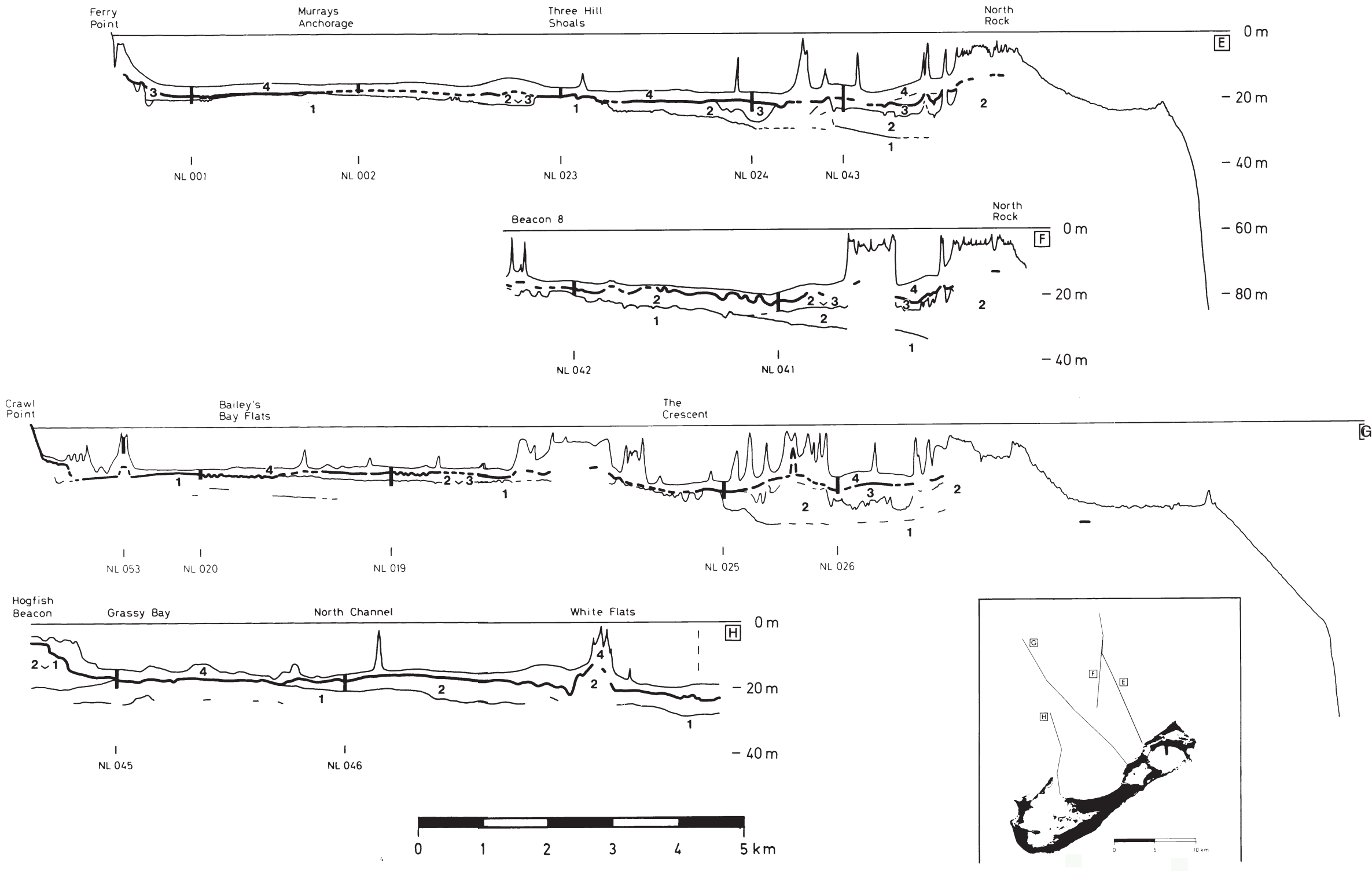


Abb. 8: Seismische Sequenzen der Bermuda North Lagoon (S - N, zentraler Teil)

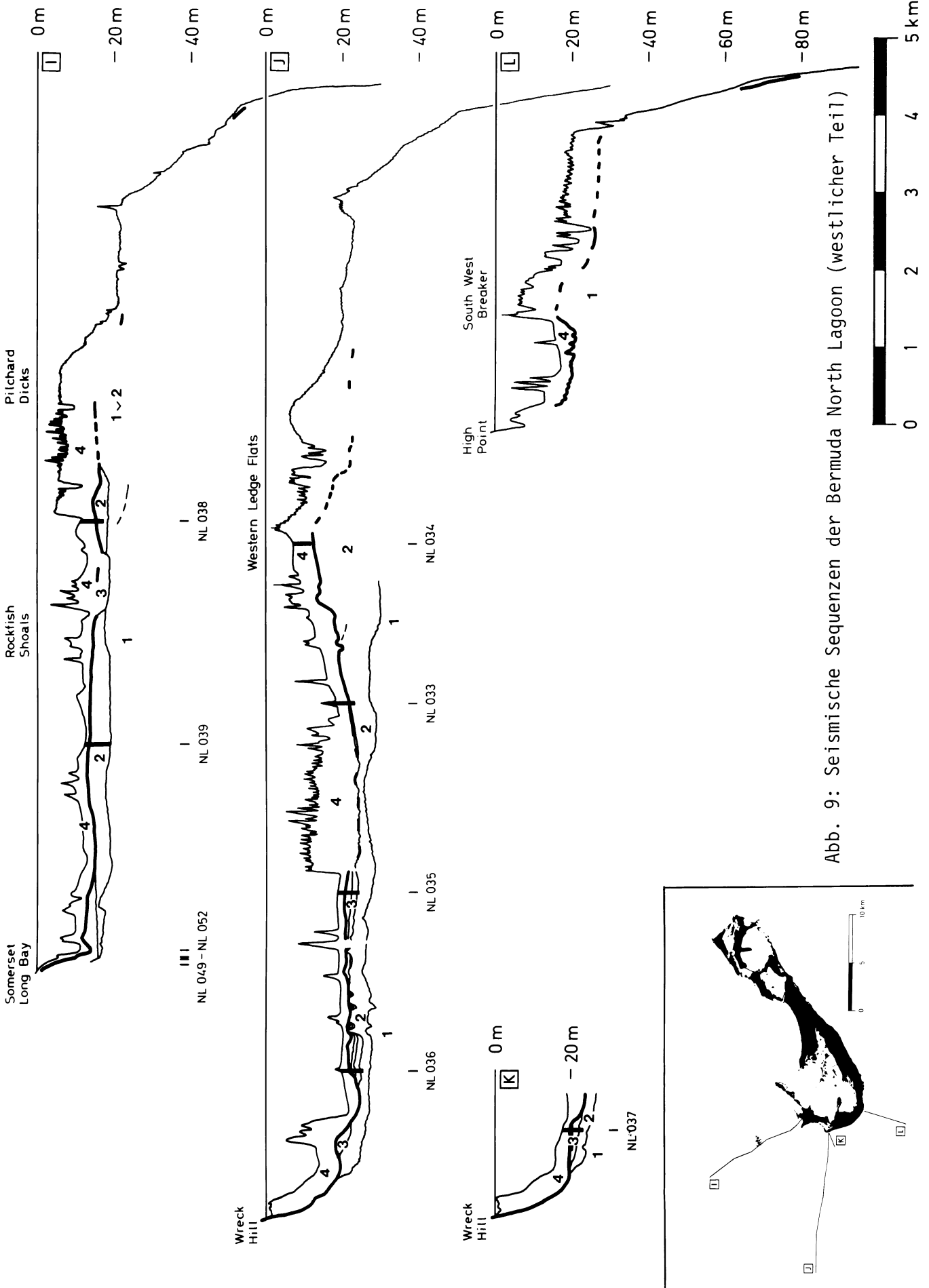


Abb. 9: Seismische Sequenzen der Bermuda North Lagoon (westlicher Teil)

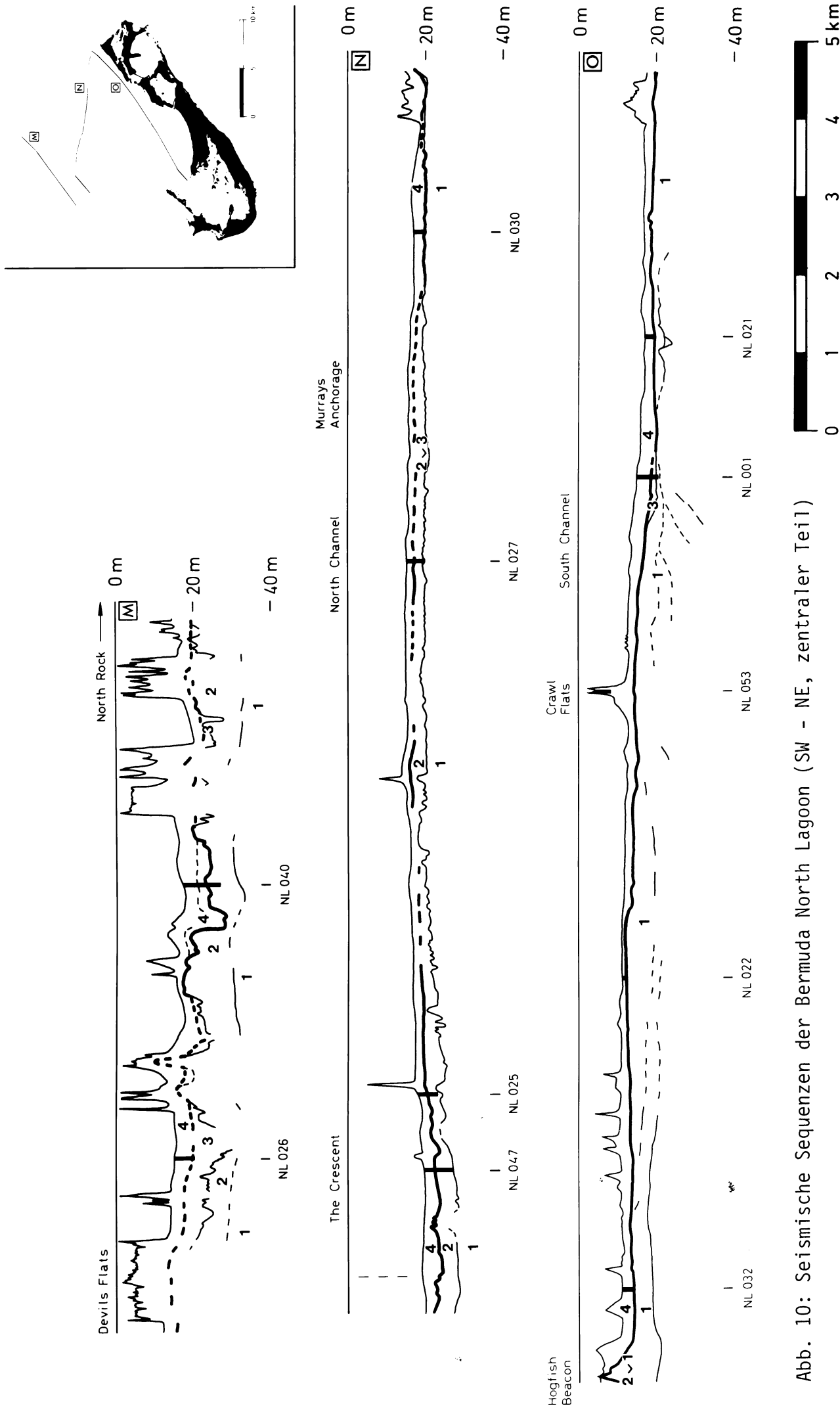


Abb. 10: Seismische Sequenzen der Bermuda North Lagoon (SW - NE, zentraler Teil)

Abb. 11

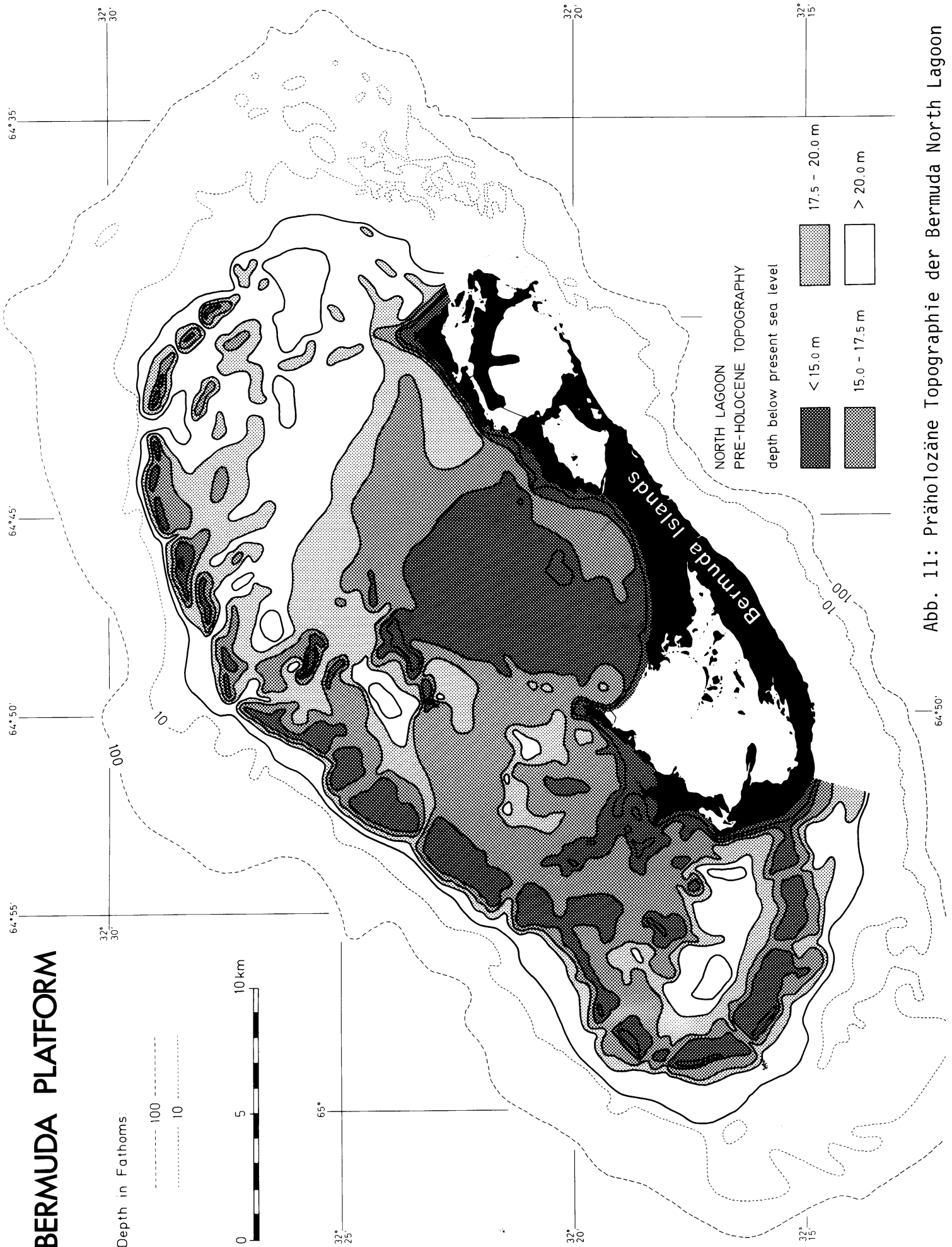


Abb. 11: Präholozäne Topographie der Bermuda North Lagoon

Abb. 12

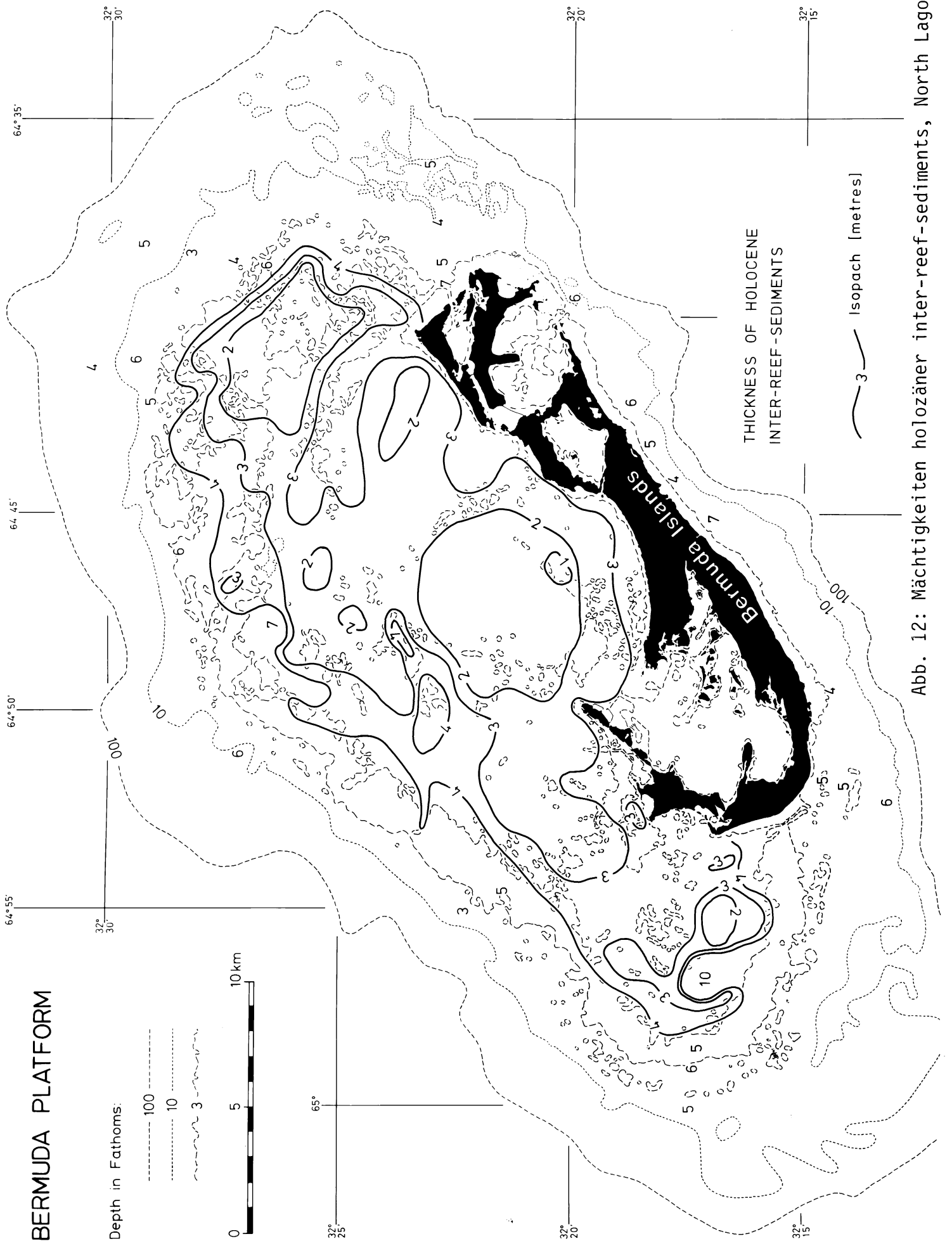


Abb. 12: Mächtigkeiten holozäner inter-reef-sediments, North Lagoon

Abb. 13

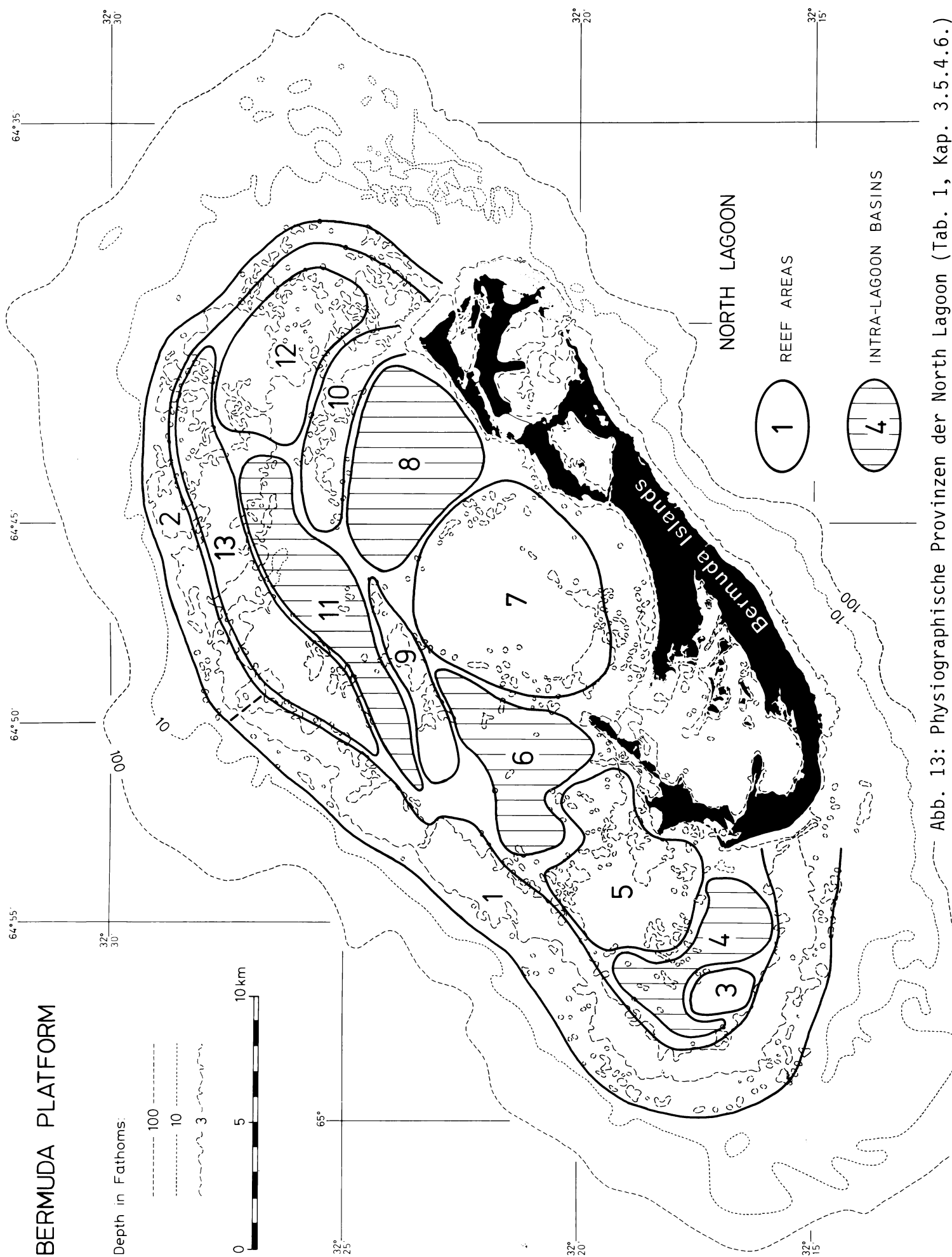


Abb. 13: Physiographische Provinzen der North Lagoon (Tab. 1, Kap. 3.5.4.6.)

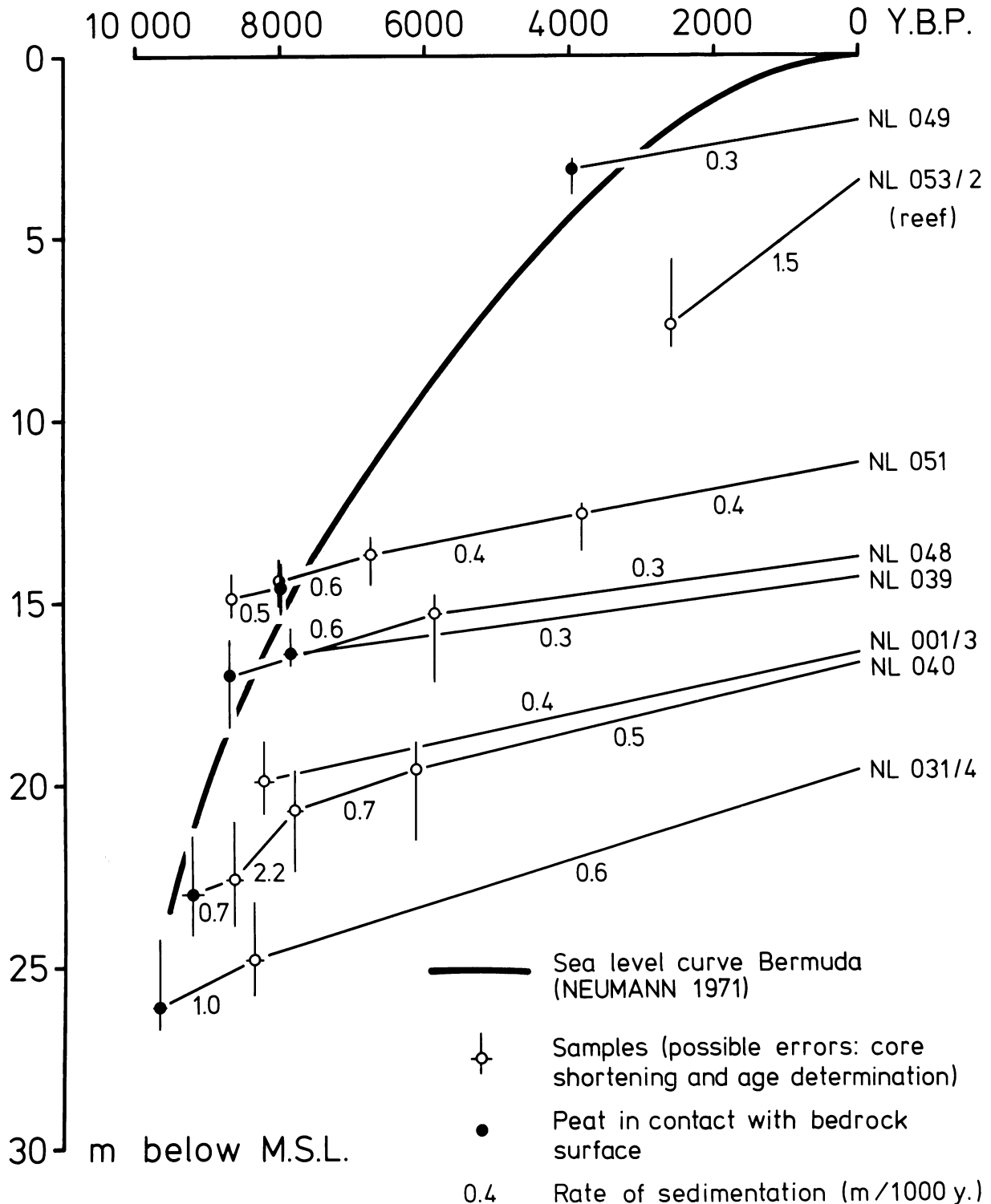


Abb. 14: Holozäner Meeresspiegelanstieg und holozäne Sedimentationsraten

Die Proben innerhalb eines Kernes wurden miteinander verbunden und die Verbindungslinie bis zur Tiefenlage der heutigen Sedimentoberfläche verlängert. Die Steigung der einzelnen Strecken ergibt die Sedimentationsraten der Ablagerungen des jeweiligen Kernabschnittes

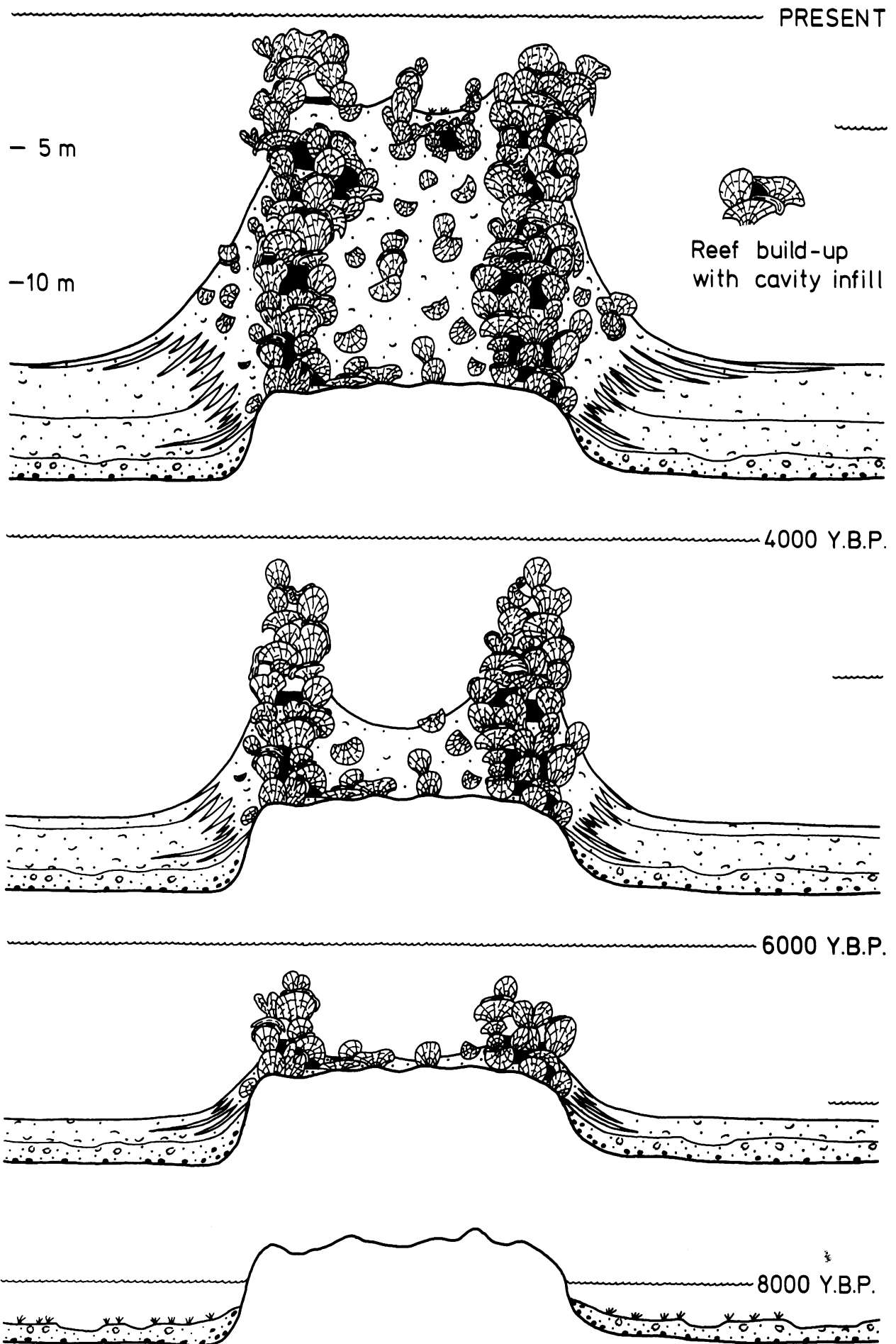


Abb. 15: Modell der holozänen Riffentwicklung (Kap. 4.4.5.1.)

Abb. 16

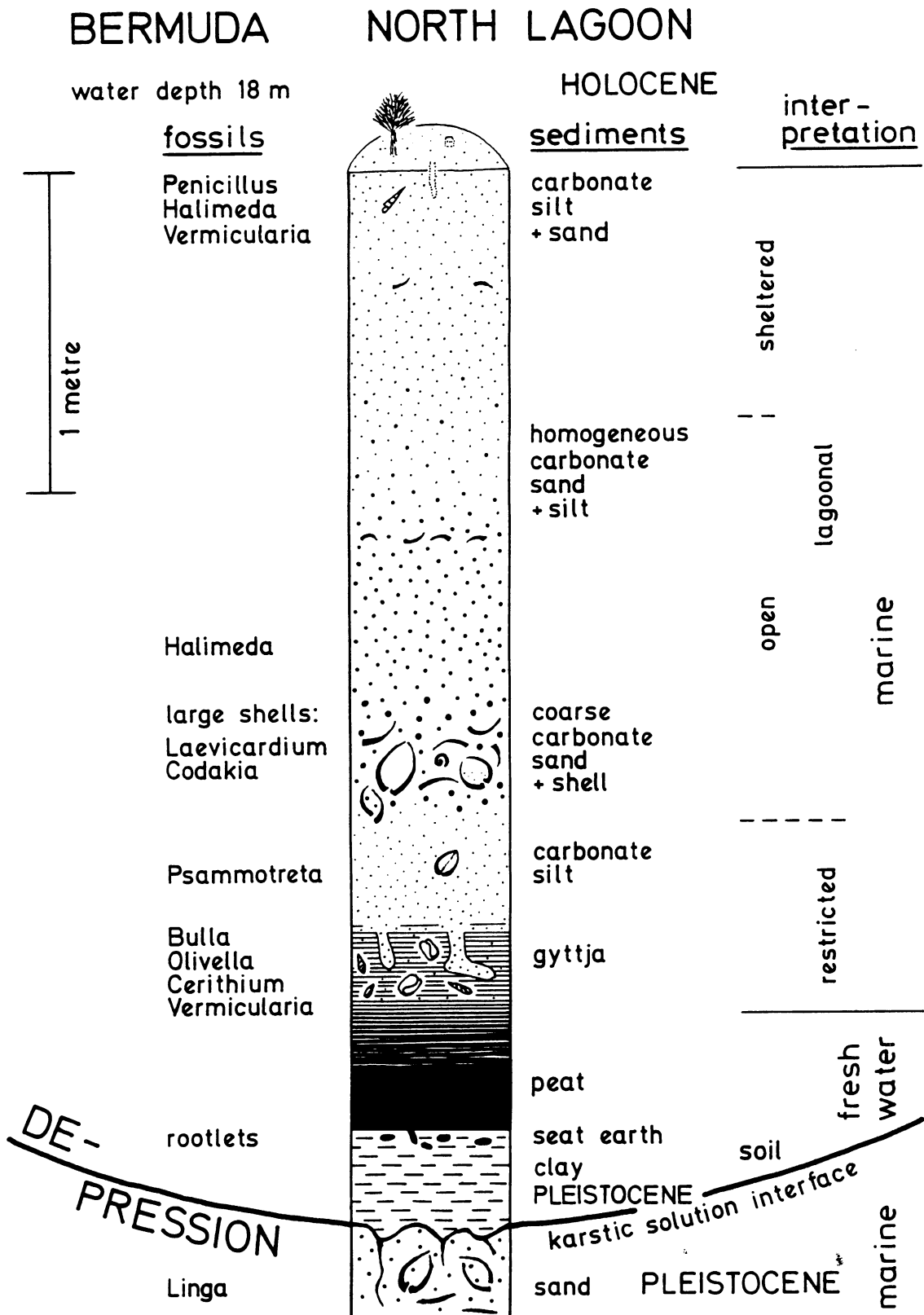


Abb. 16: Holozäne Sedimentation in einer Senke des präholozänen Untergrundes (Kap. 6.1.1.)

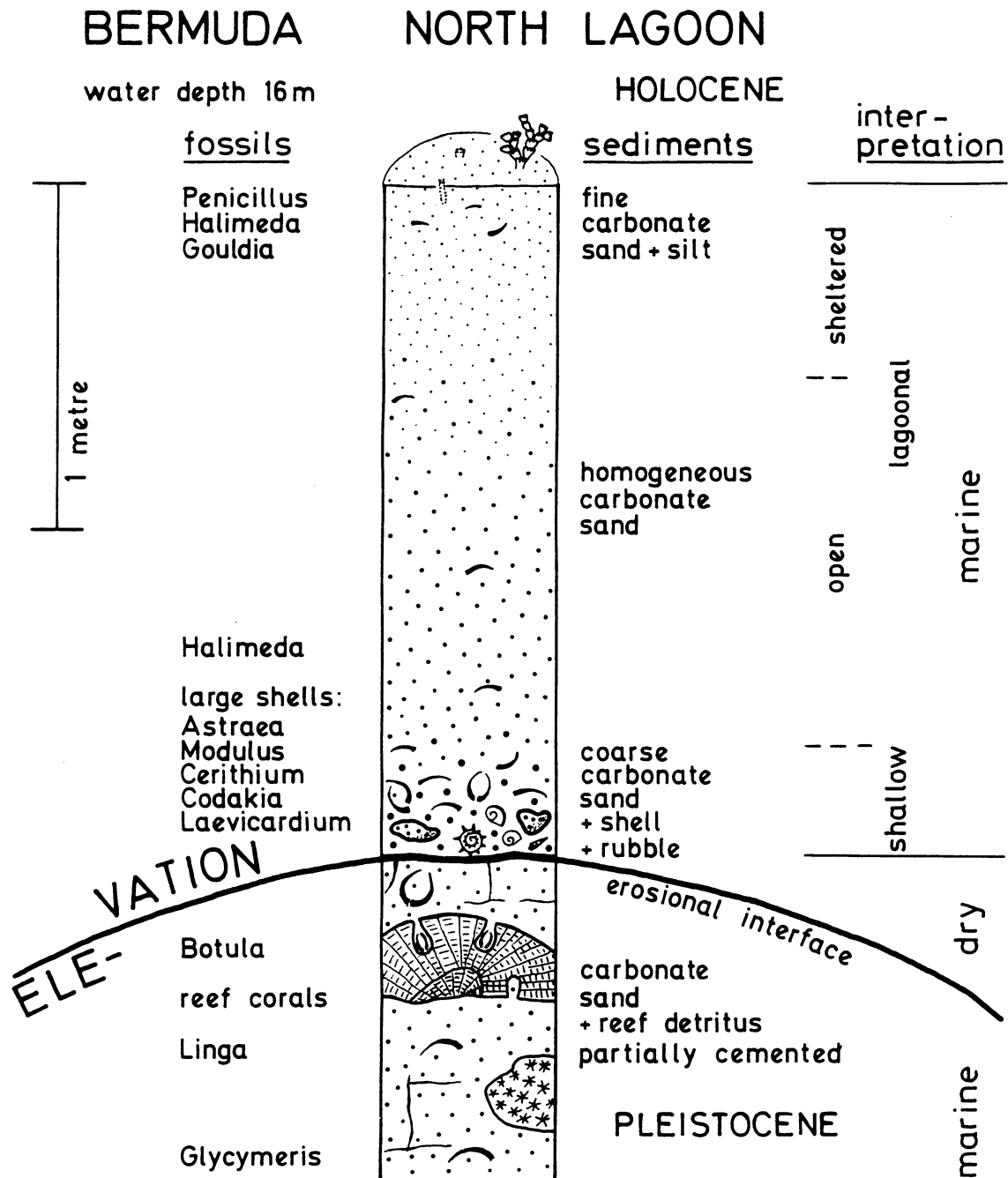


Abb. 17: Holozäne Sedimentation auf einer Erhebung des präholozänen Untergrundes (Kap. 6.1.2.)

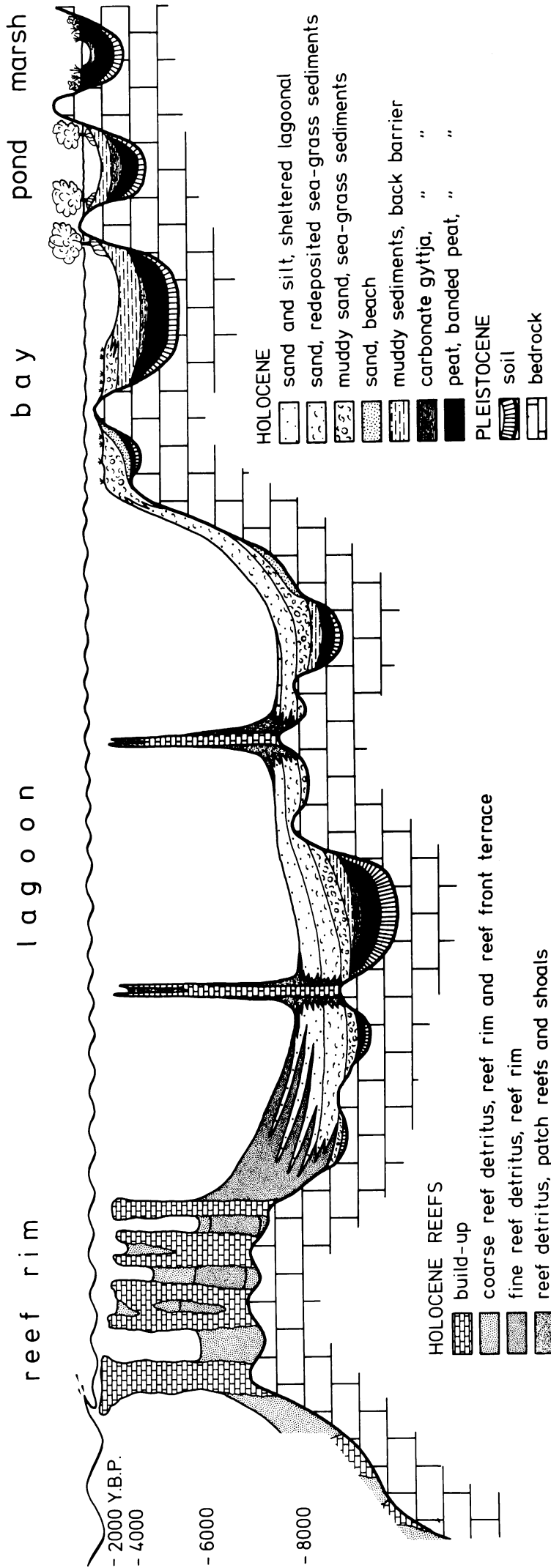


Abb. 18: Synoptisches Profil der holozänen Faziesverteilung (nicht maßstäblich)

Im Verlauf des Holozäns gibt es unterschiedliche Transportweiten des feinkörnigen Saumriffdetritus in die Lagune (ähnliche Entwicklung bei lagunären Riffen).

1. Flachwasser, hohe Exposition, starke Umlagerung und höhere Transportweite
2. starker Meeresspiegelanstieg, abnehmende Exposition, Akkumulation von Sediment im Saumriff, geringere Transportweite
3. geringer Meeresspiegelanstieg, Auffüllung der Sandwannen im Saumriff, zunehmende Auswaschung und Erosion in den flachen Sandwannen, zunehmender Materialtransport in die Lagune, größere Transportweiten (aber geringere Korngrößen)

Abb. 19

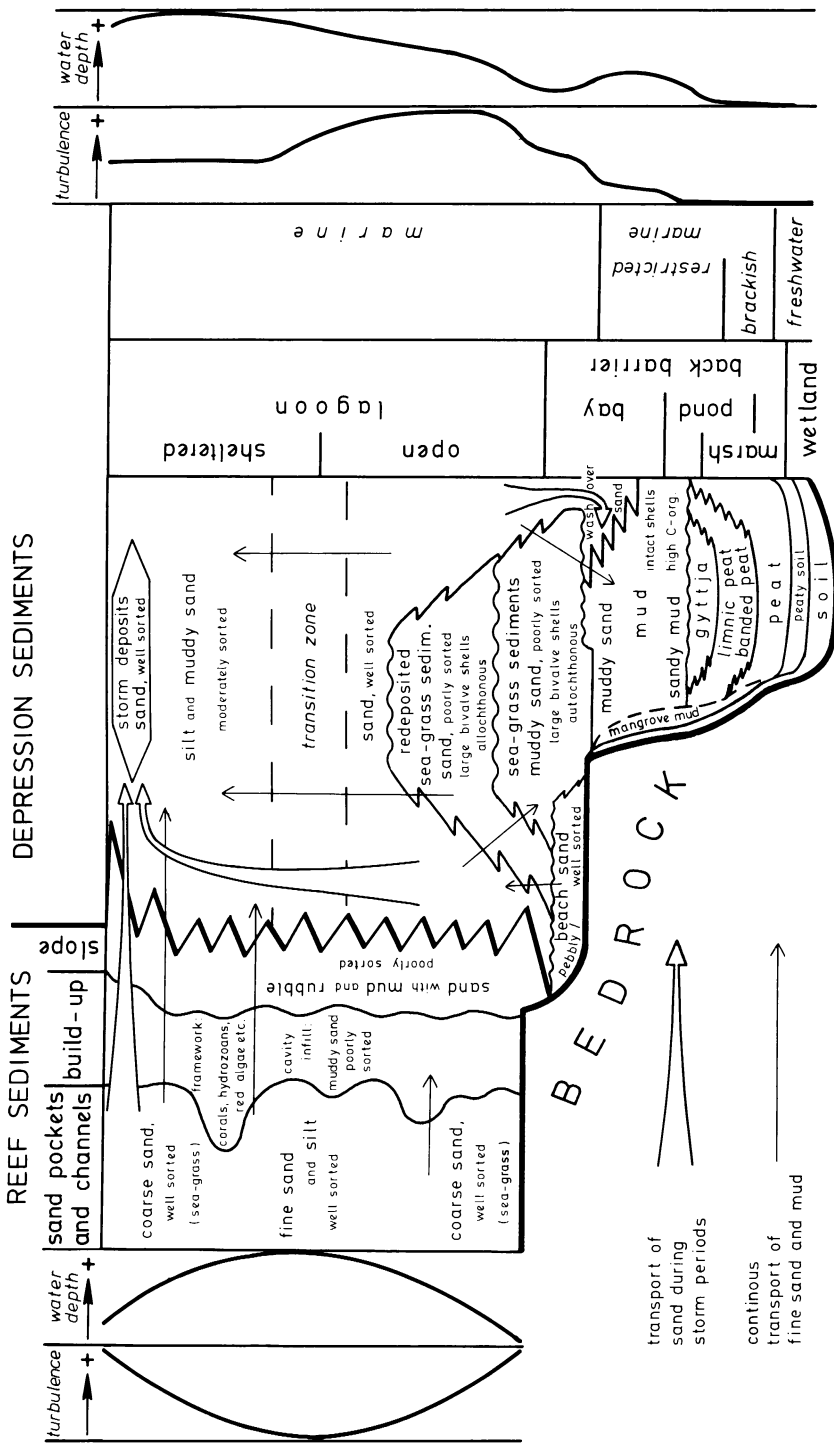


Abb. 19: Schema der holozänen Faziesentwicklung (Funktionsschema)

Auf der rechten Seite ist die Entwicklung der holozänen Sedimente dargestellt, die in Senken der präholozänen Oberfläche und auf den ebenen Lagunenböden abgelagert wurden. Bei der holozänen Transgression migrieren die in den verschiedenen Ablagerungsräumen entstandenen Fazies-Einheiten übereinander. Fazies-Änderungen werden weitgehend bestimmt durch die präholozäne Topographie und Geologie (Strandentwicklung, Kap. 4.4.1.), dem Wasserchemismus, der Turbulenz und der Wassertiefe.

Die linke Seite zeigt die holozäne Riffentwicklung. Die Fazies-Einheiten sind bei der holozänen Transgression weitgehend stationär und konstant zusammengesetzt. Eine Ausnahme bildet lediglich die Entwicklung etwas größerer Sandwannen im Riff. Starker Meeresspiegelanstieg vergrößert zunächst die Wassertiefe, hohe Sedimentationsraten und geringerer Meeresspiegelanstieg führen anschließend zu einer Abnahme der Wassertiefe (Kap. 4.4.5.1.).

SOMERSET LONG BAY

Abb. 20

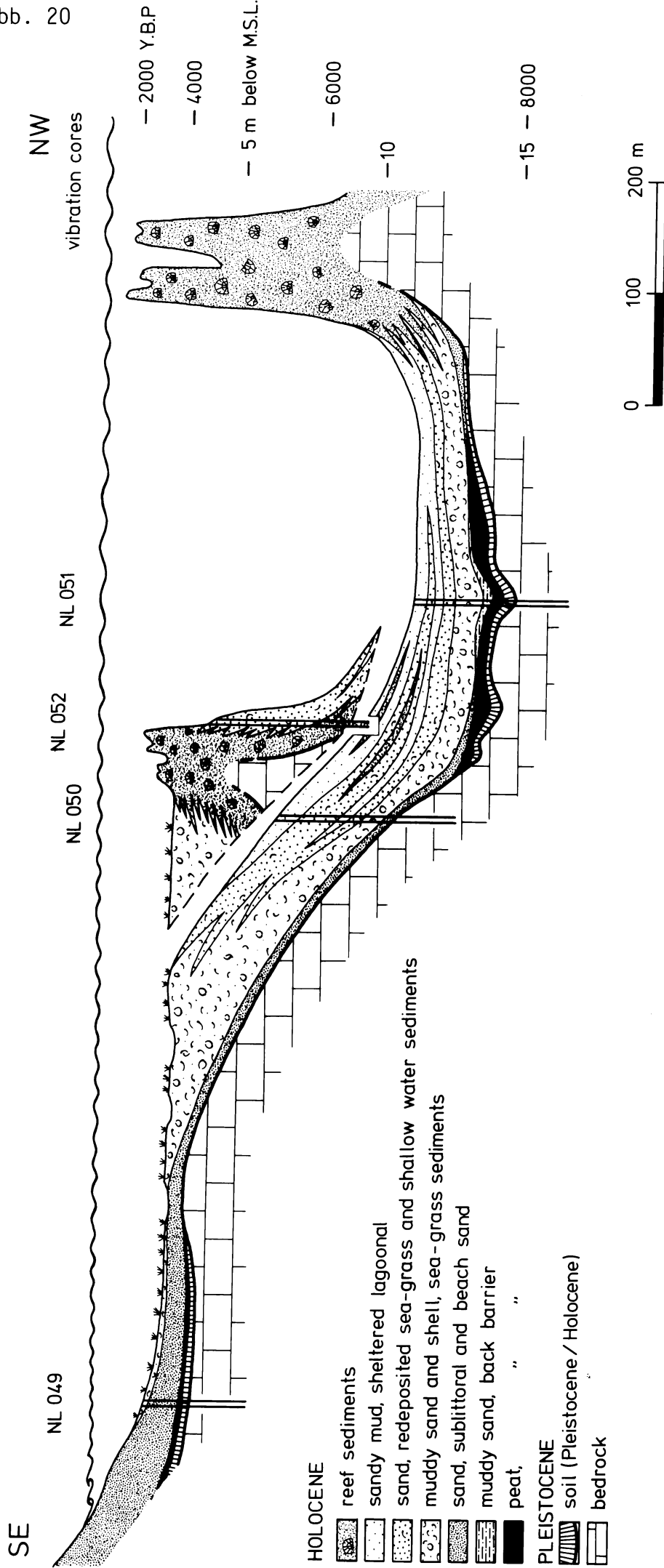


Abb. 20: Profil der holozänen Sedimente im Somerset Long Bay (Taf. 8/3)

Korngrößenverteilungs-Histogramme (Abb. 21 bis 23)

Abb. 21

Abb. 21: Korngrößenverteilungs-Histogramme einiger Strandsande, Bermuda North Shore (Tab. 5)

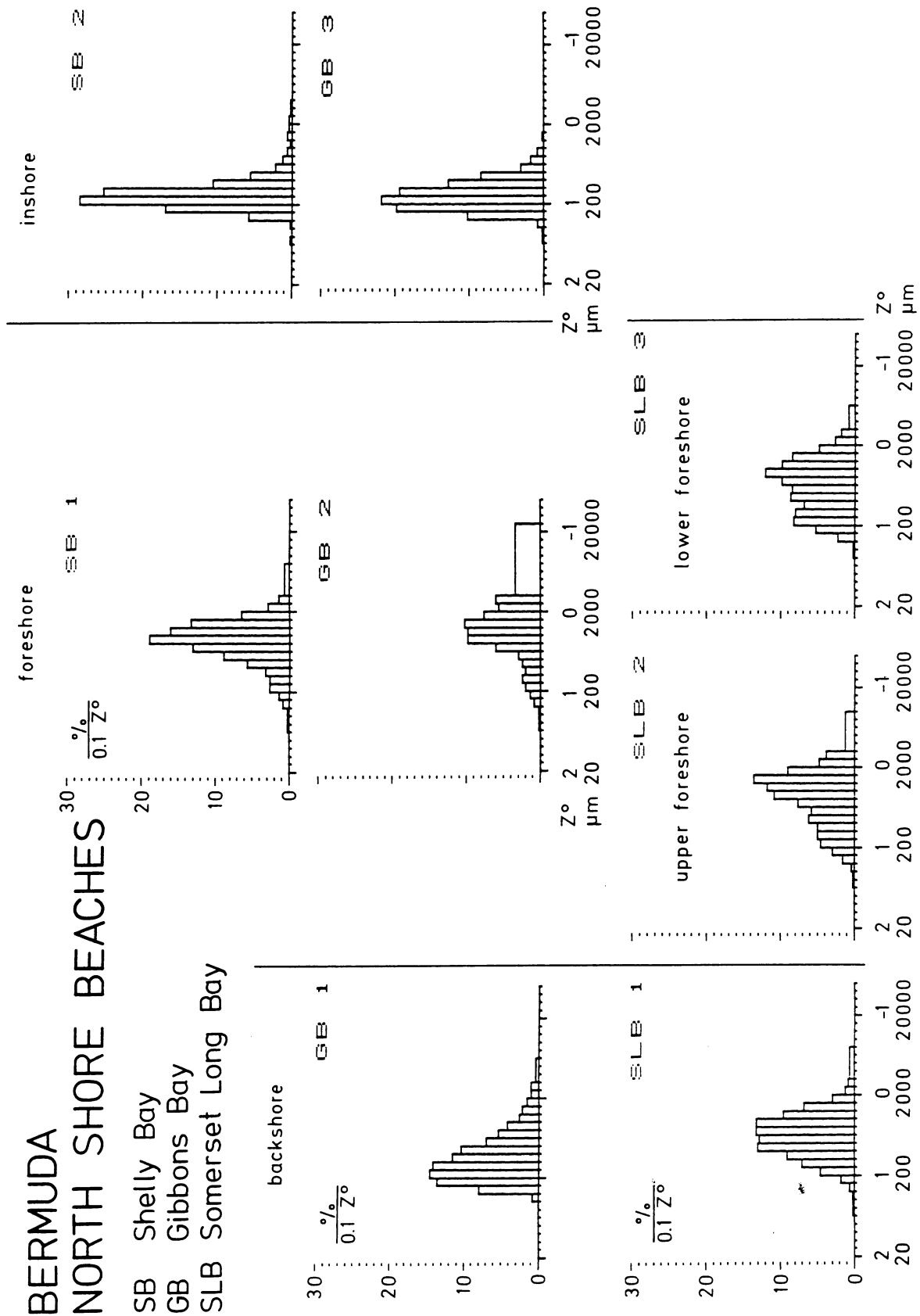
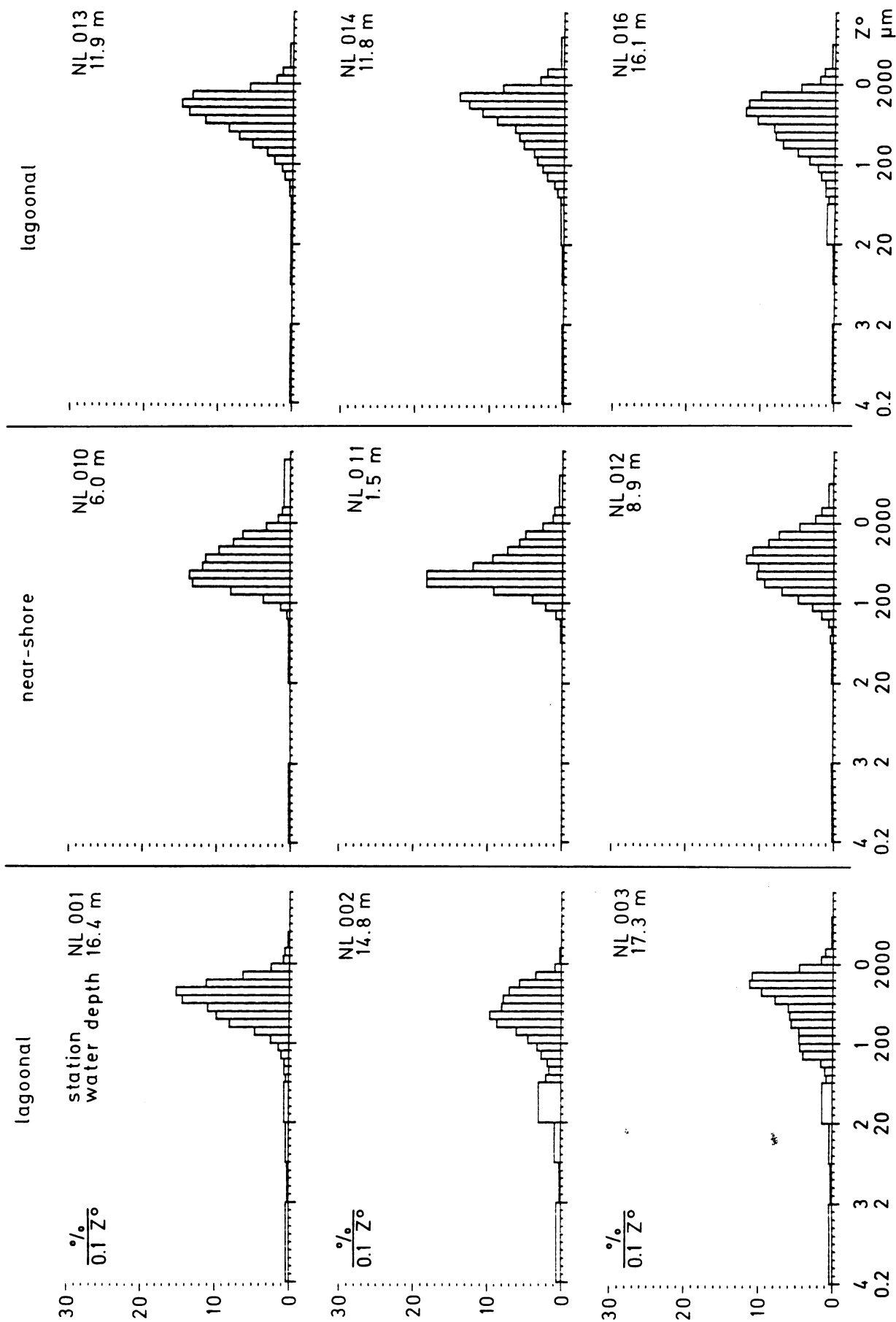


Abb. 22: Korngrößenverteilungs-Histogramme von Proben der Sedimentoberfläche, North Lagoon (lagoonal and near shore sediments; Tab. 6)

BERMUDA NORTH LAGOON, SEDIMENT SURFACE



BERMUDA NORTH LAGOON, SEDIMENT SURFACE

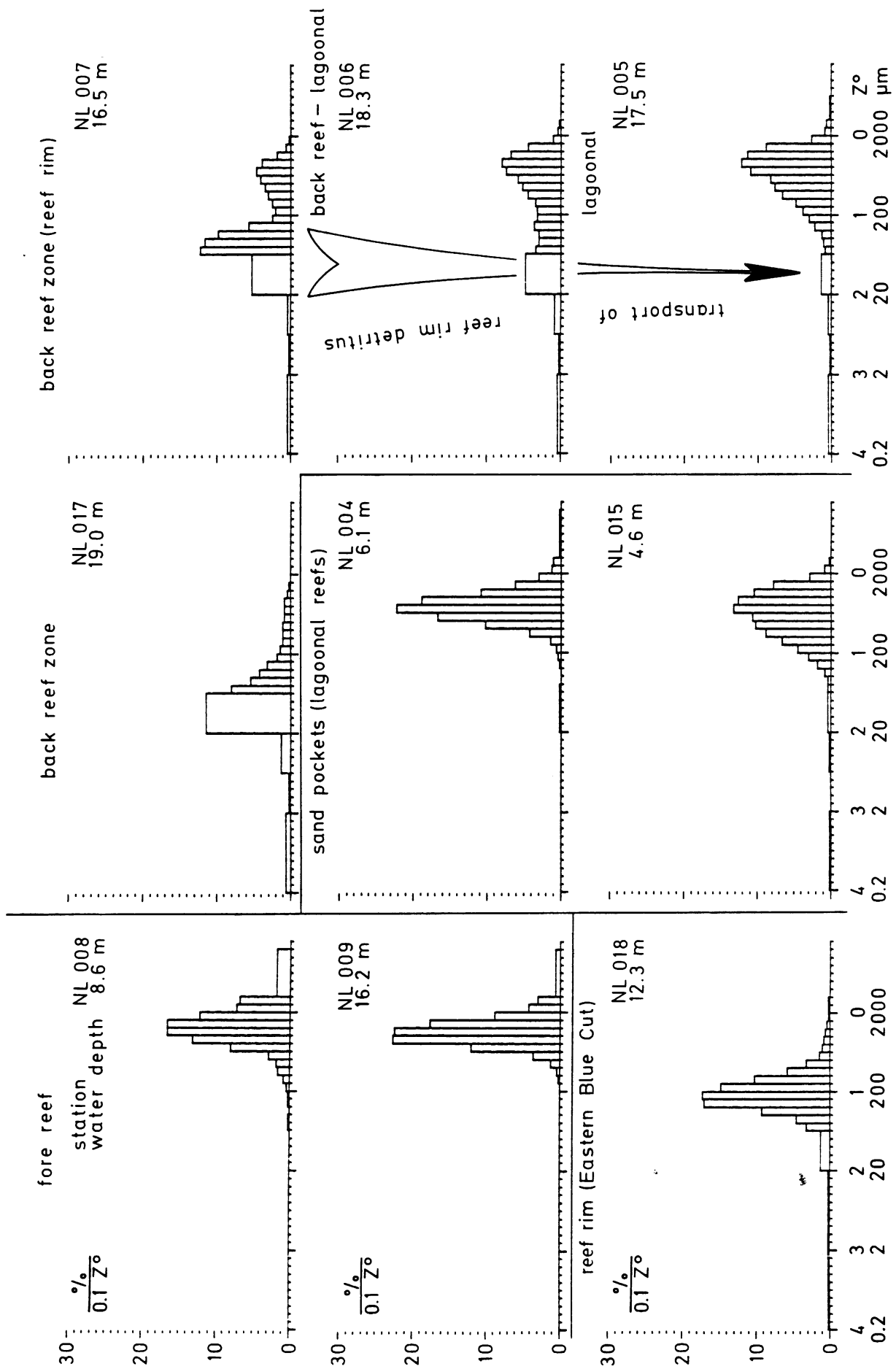














Abb. 23: Korngrößenverteilungs-Histogramme von Proben der Sedimentoberfläche, North Lagoon (reefal sediments; Tab. 6)

Abb. 23

Korngrößenverteilungs-Histogramme und Faziesinterpretation
der Sedimentkerne (Abb. 24 bis 43)

KEY

NL 001/3 core
16.4 m water depth

-  fine sand and mud
-  medium sand
-  coarse sand
-  gyttja
-  peat, banded peat
-  clayey soil
-  bioturbated sediments
-  partially cemented sand
-  bivalve shell
-  gastropod shell
-  branching corals
-  massive corals
















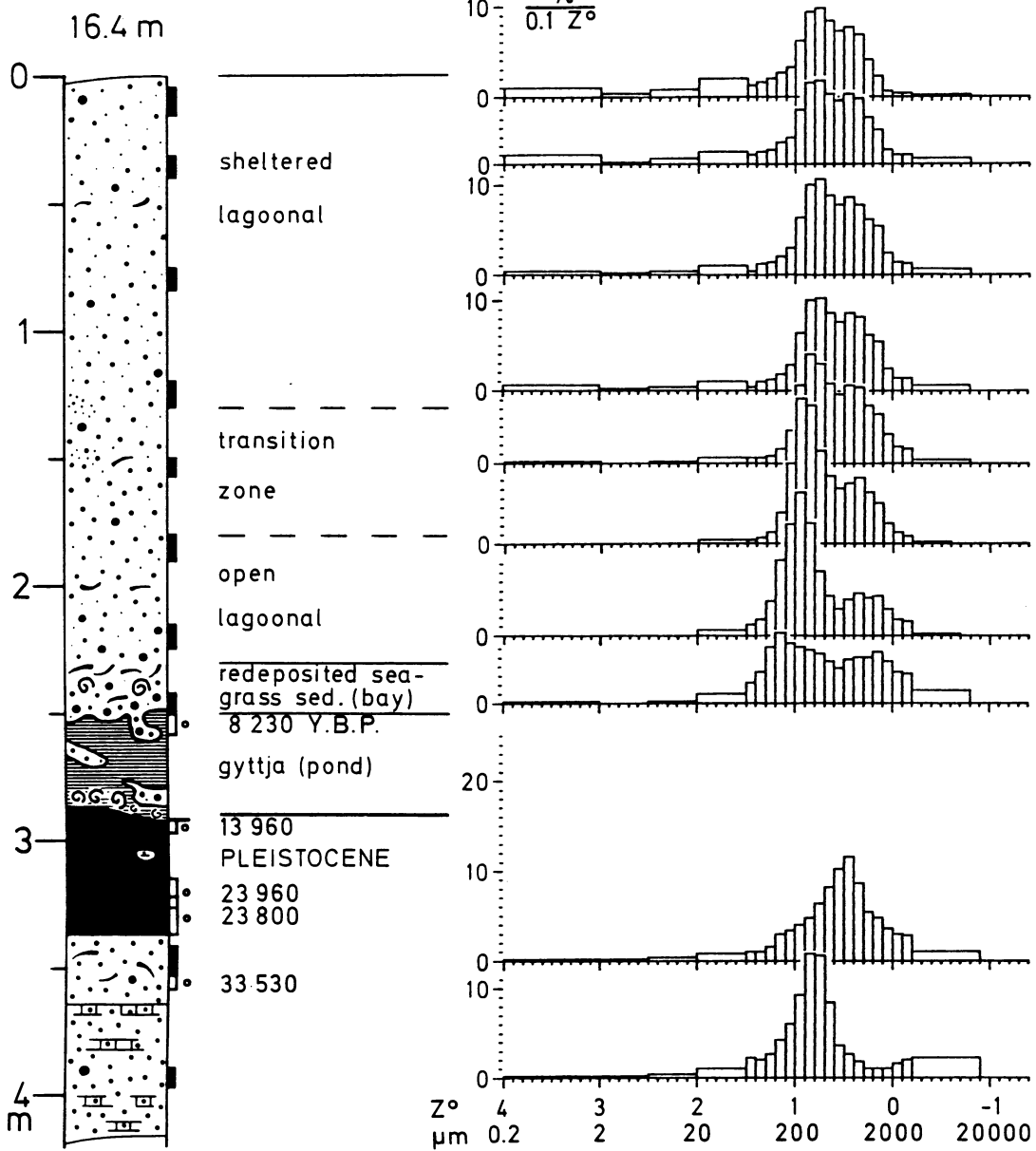
-  bryozoa (NL 037)
-  incrusting red algae
-  lithoclasts (Pleistocene pebbles)
-  soil with volcanic clasts (NL 021/1)
-  cinder (anthropogenic, NL 045)
-  plant remains (bituminous sediments)
-  rootlets
-  *Homotrema rubrum* fragments
-  sample
-  ^{14}C age (Y.B.P.)
-  $^{230}\text{Th}/^{234}\text{U}$ age (10^3 Y.B.P.)
-  Holocene
-  Pleistocene
-  sediment surface disturbed
-  core base disturbed

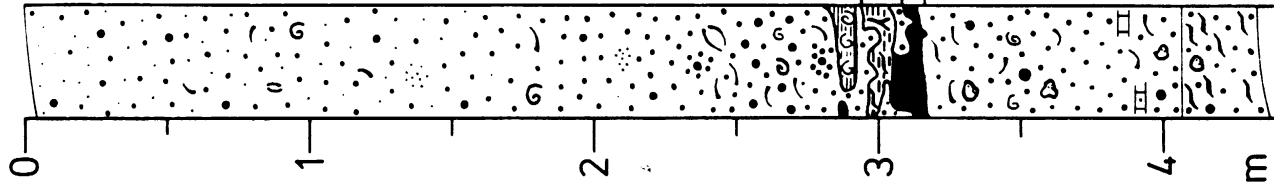
Abb. 24: Legende zu den Abbildungen 25 bis 43

NL 001/3



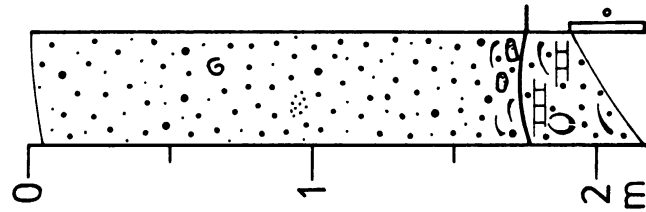
NL 001/5

16.4 m



NL 002

14.8 m



NL 019/2

11.2 m

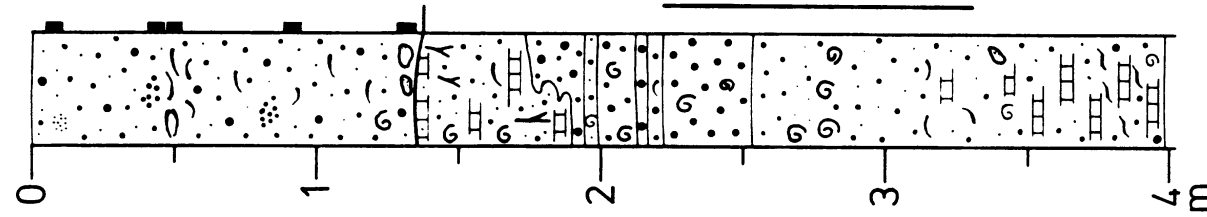
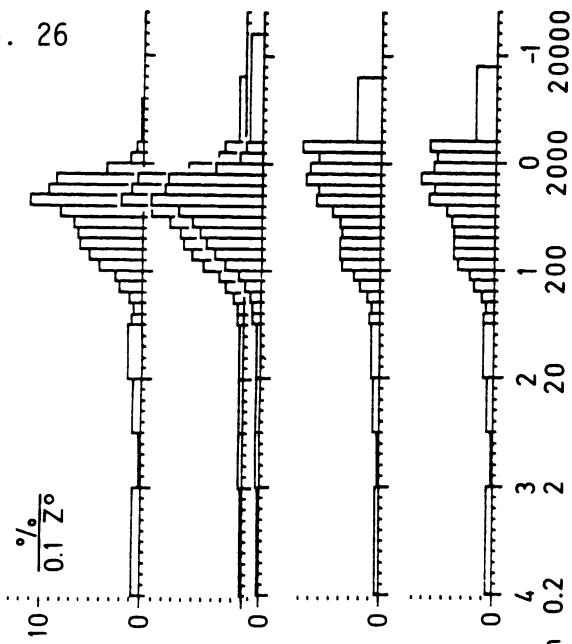


Abb. 26

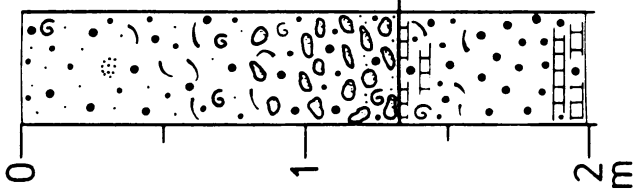


sheltered lagoonal
open lagoonal
(redeposited sea-grass sediments)
shallow-water sand

PLEISTOCENE

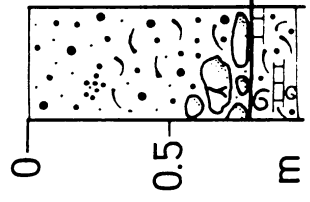
NL 020

12.6 m



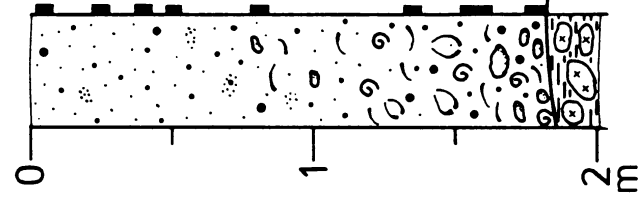
NL 022

11.6 m



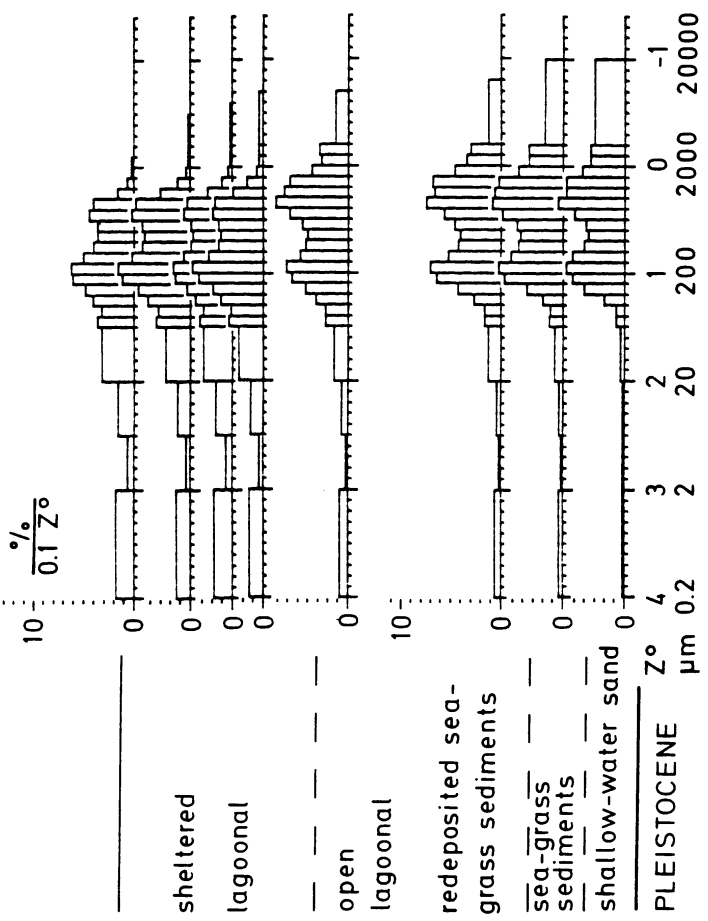
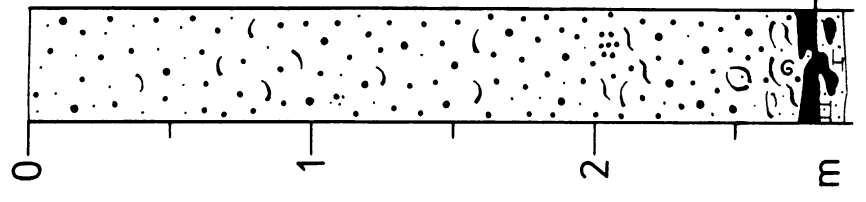
NL 021/1

18.2 m



NL 023/2

17.0 m

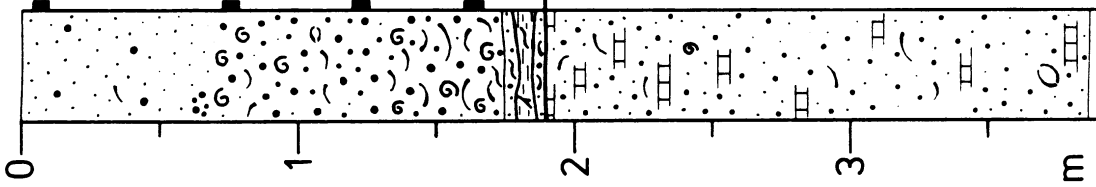


sheltered lagoonal
open lagoonal
shallow-water sand
PLEISTOCENE
sheltered lagoonal
transition zone
open lagoonal
redeposited sea-bay peat marsh
PLEISTOCENE

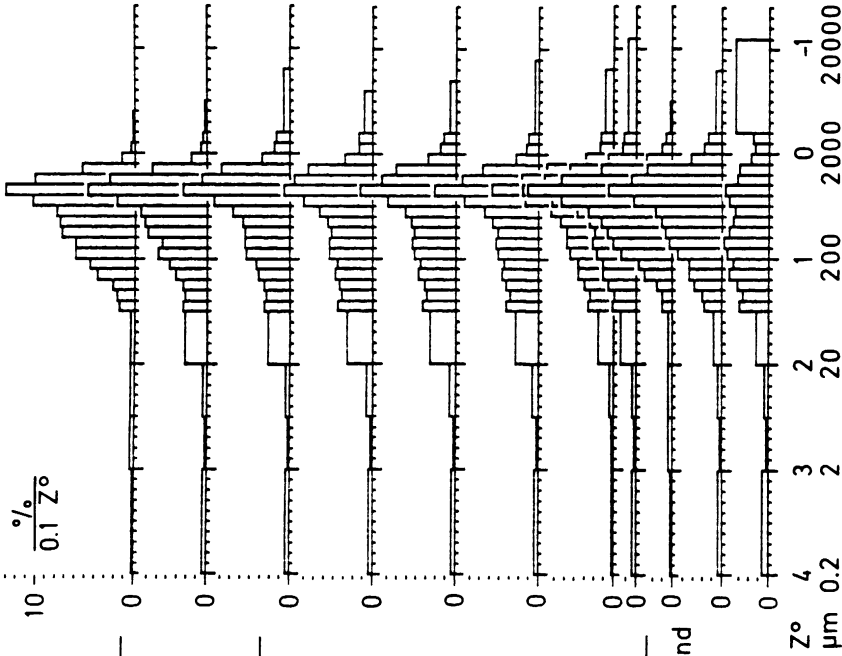
Abb. 28

NL 025

18.2 m



PLEISTOCENE



sheltered lagoonal

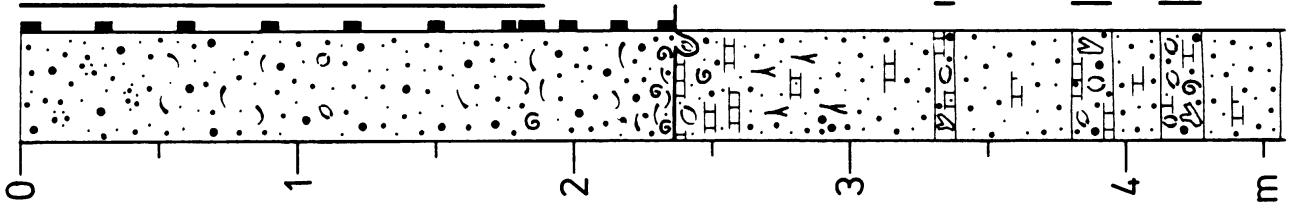
open lagoonal

shallow-water sand
redeposited sea-grass sediments

PLEISTOCENE

NL 024

17.7 m



$\frac{\%}{0.1 Z^\circ}$

sheltered lagoonal

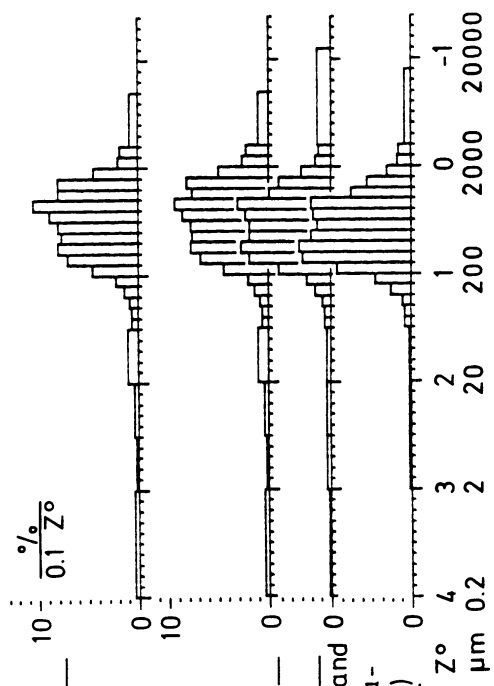
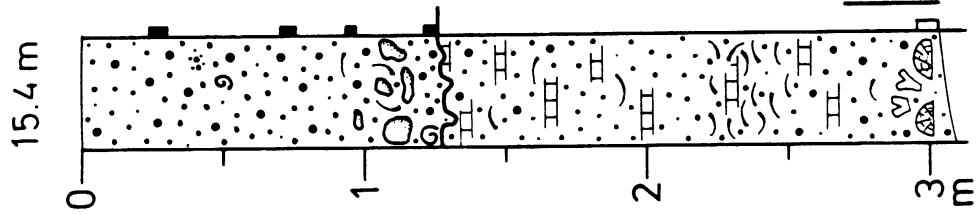
open lagoonal

shallow-water sand
redeposited sea-grass sediments

PLEISTOCENE

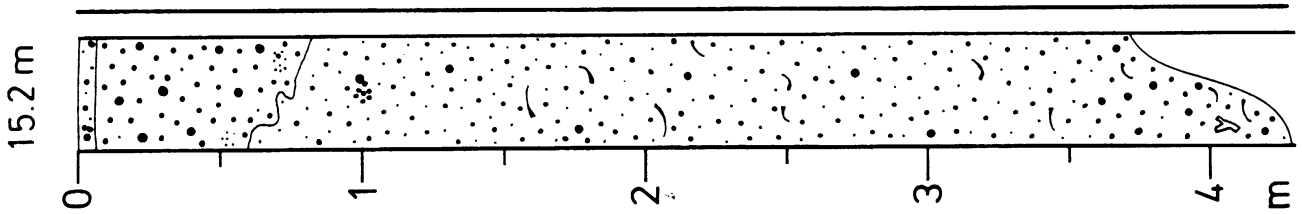
$Z^\circ \mu m$
0.2 0.3 2 20 200 2000 20000

NL 027



PLEISTOCENE

NL 026



NL 028

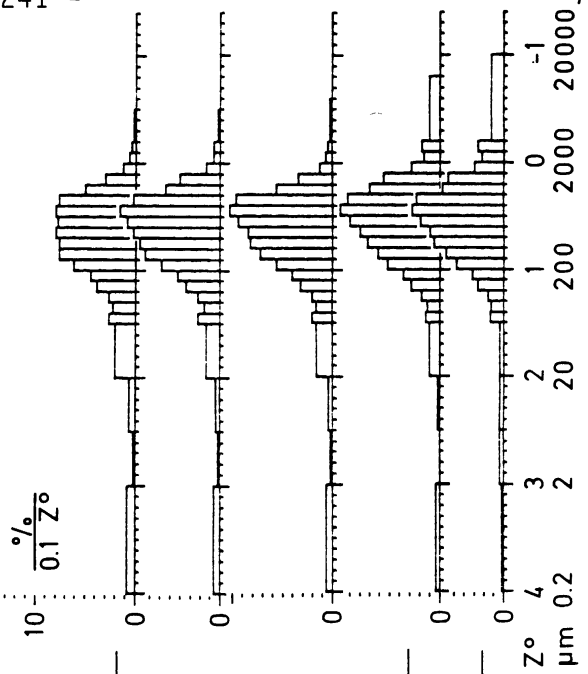
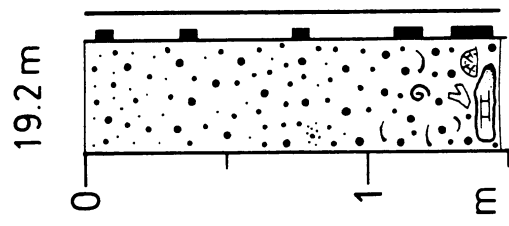
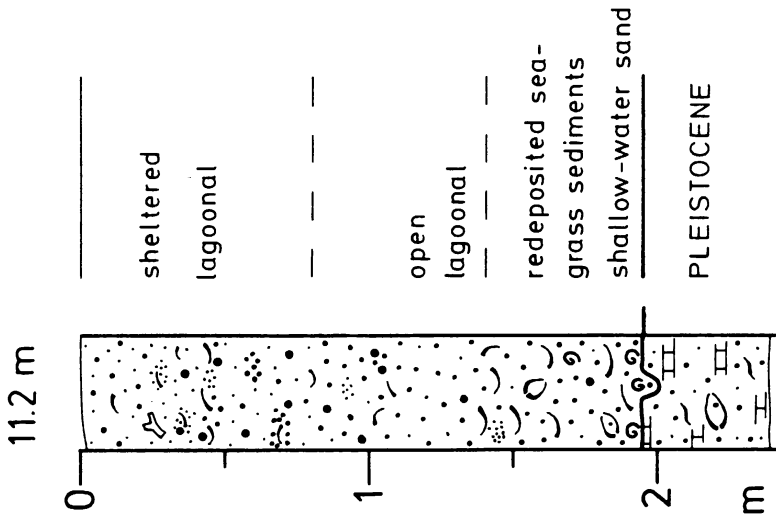


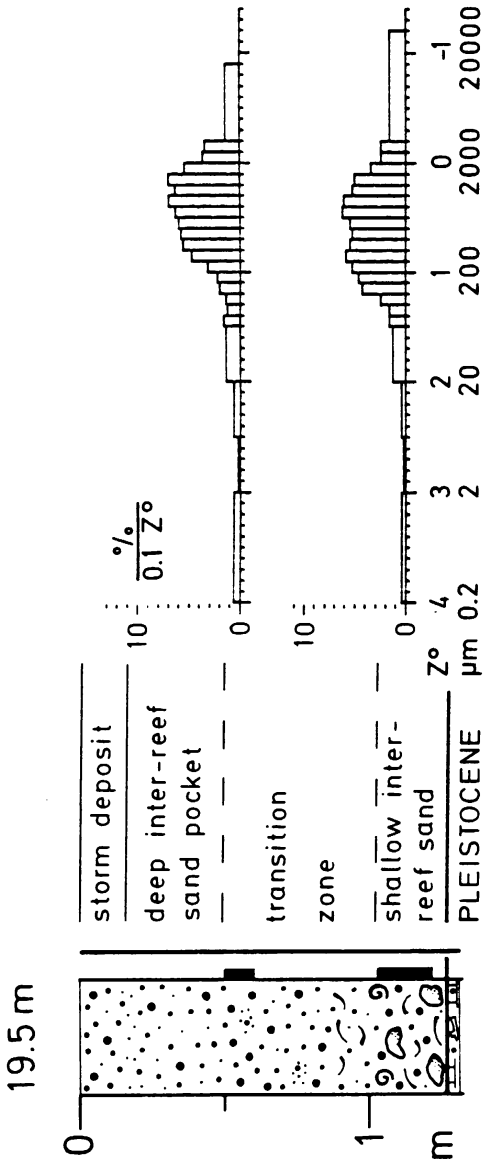
Abb. 30

NL 032

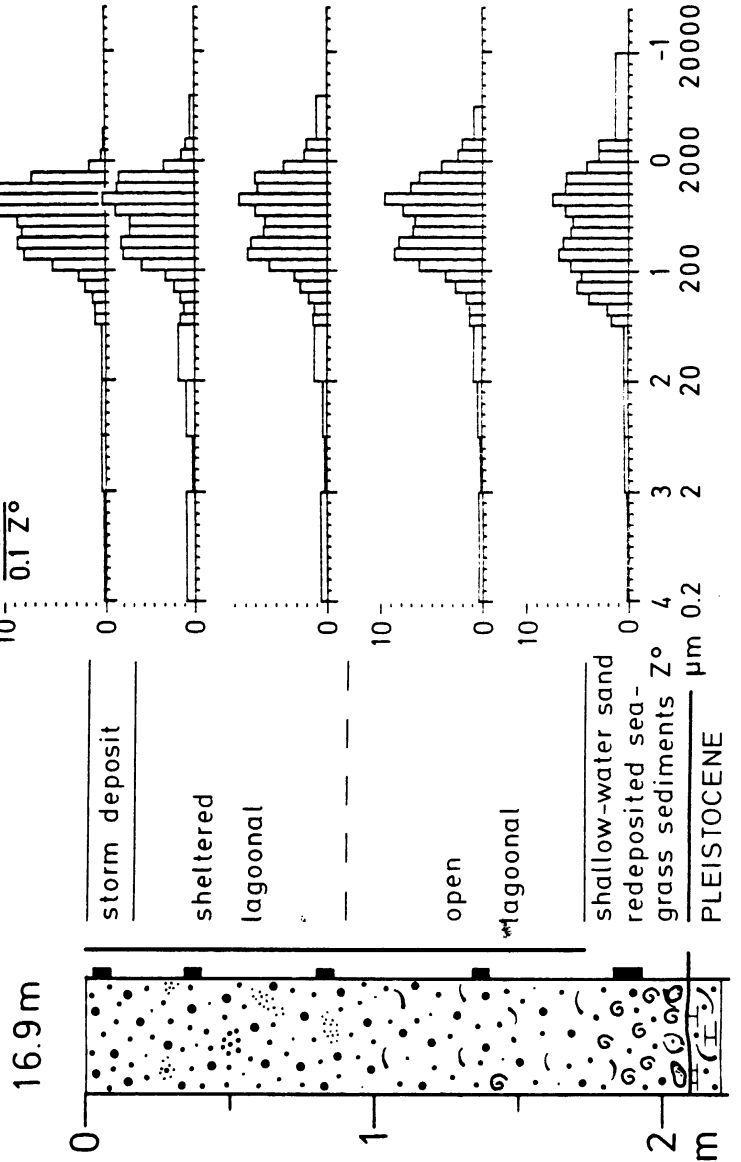


Kern NL 031/4 auf Abb. 31

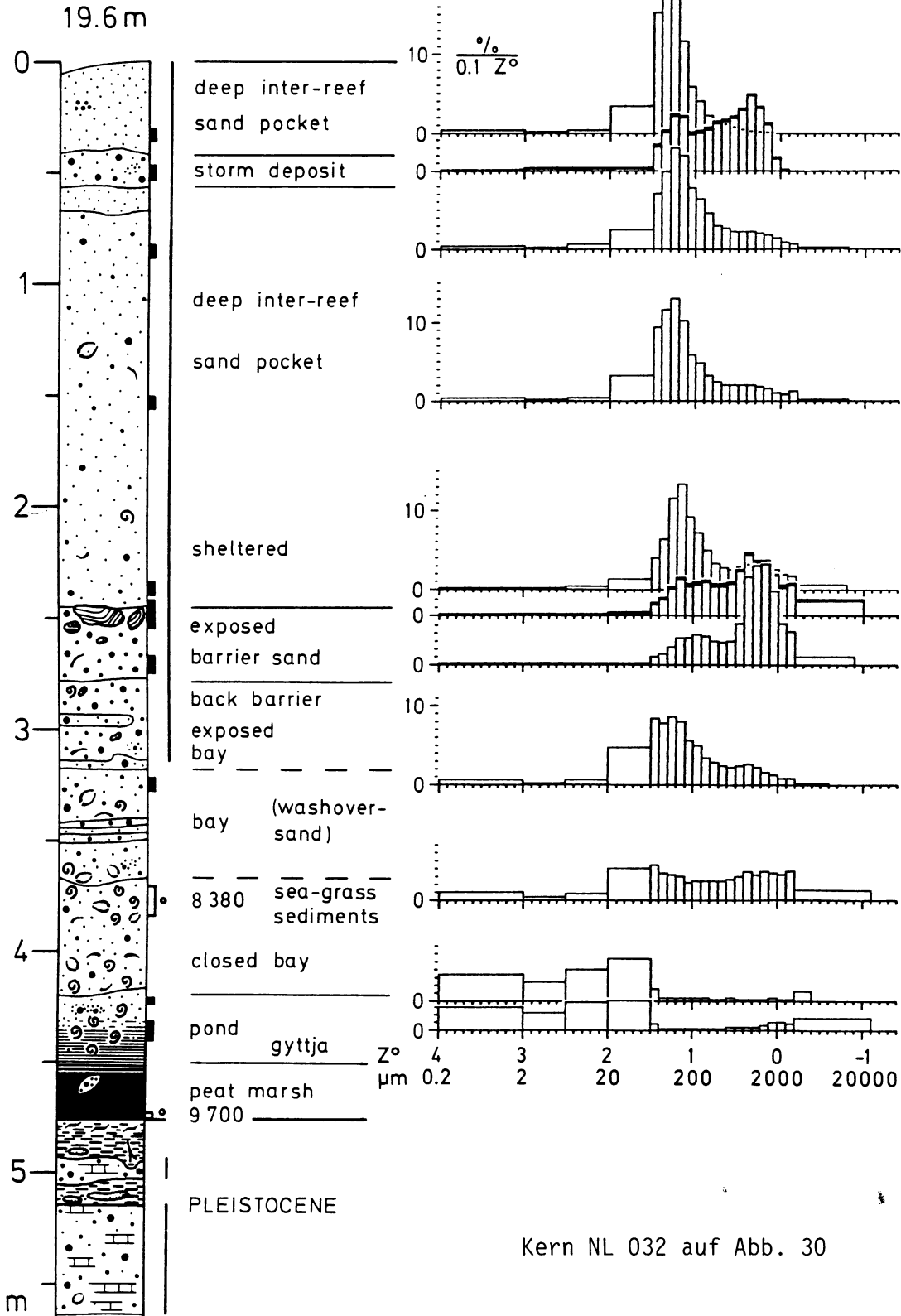
NL 029



NL 030



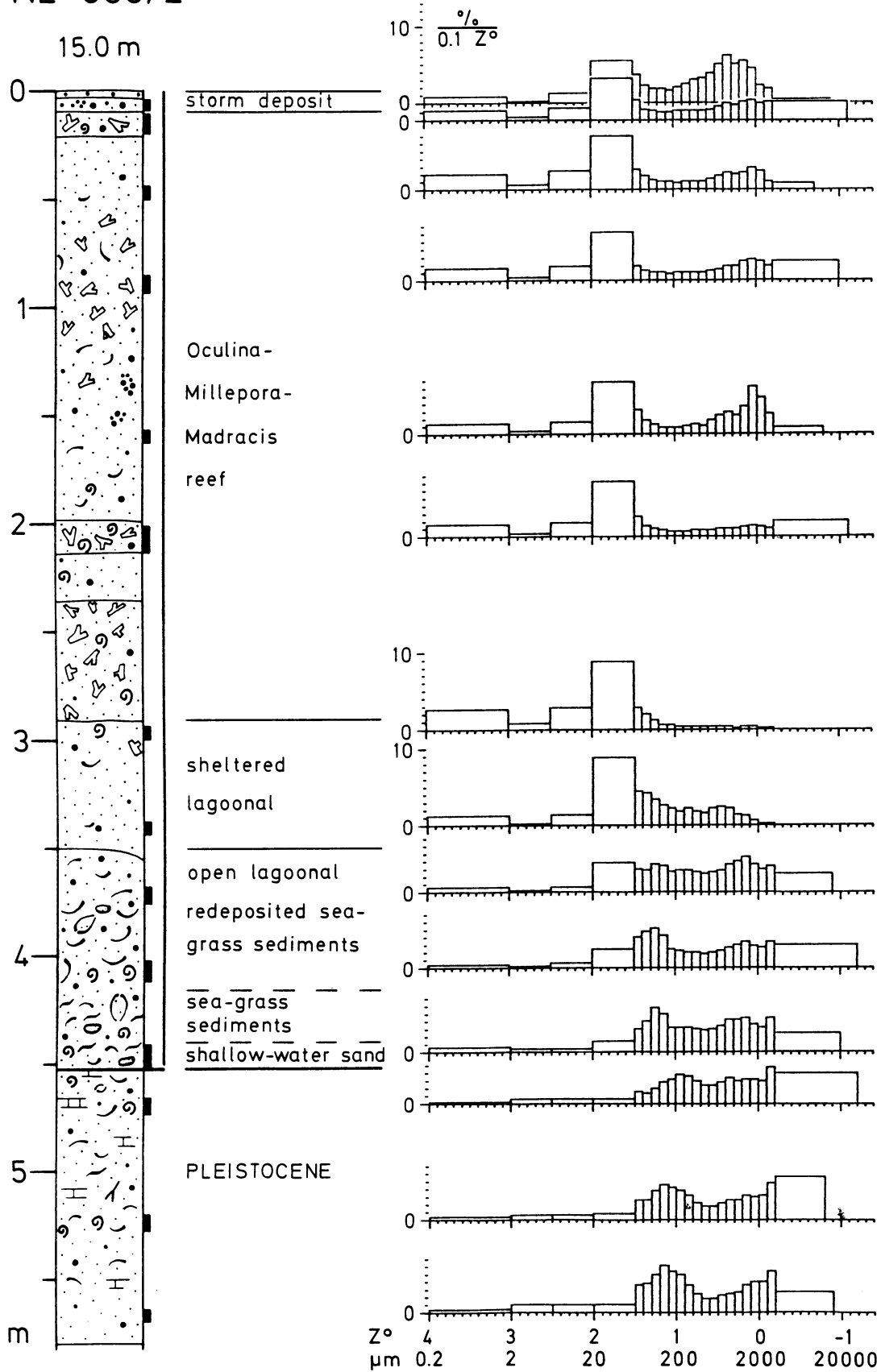
NL 031/4



Kern NL 032 auf Abb. 30

Abb. 32

NL 033/2



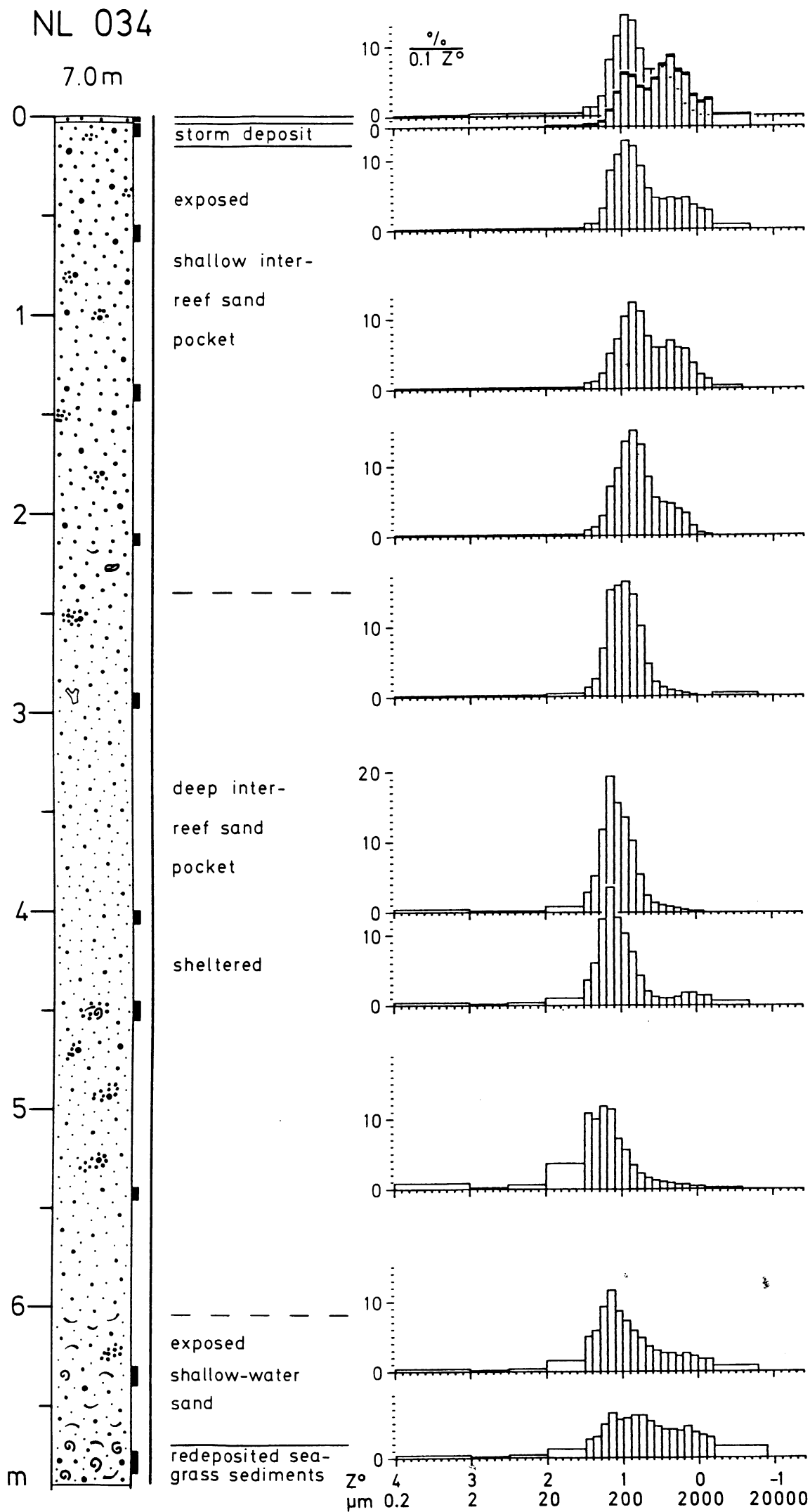
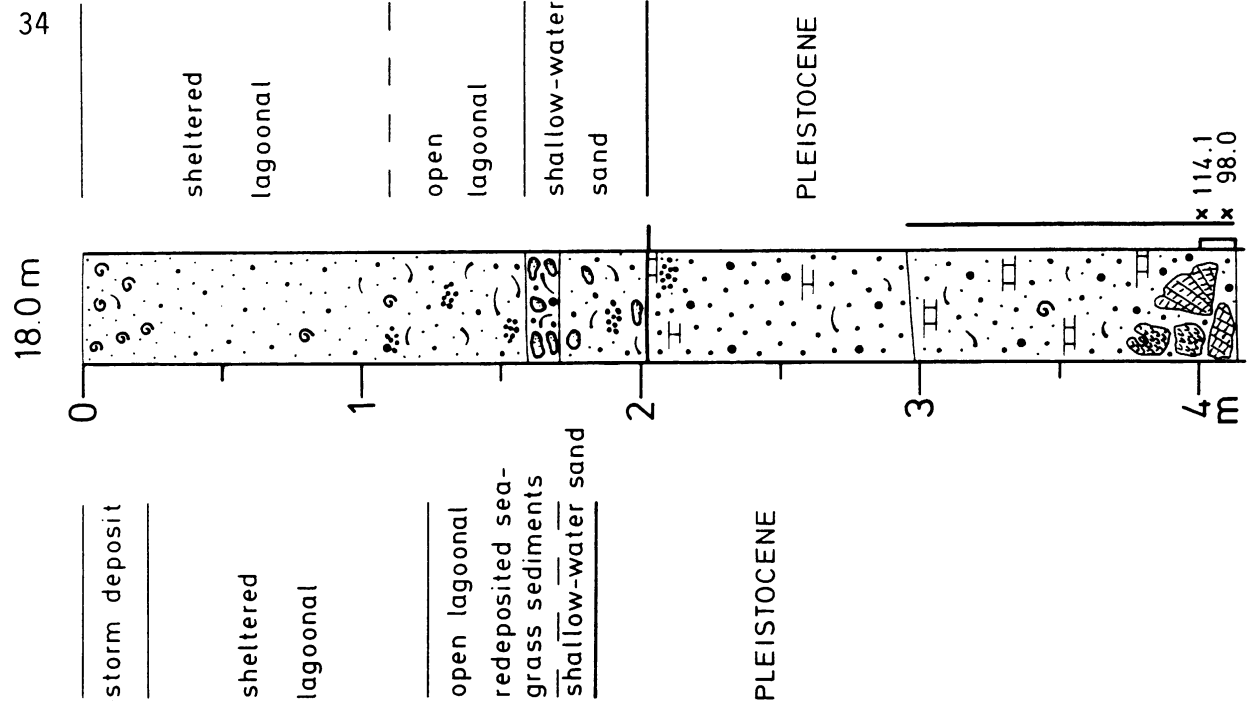
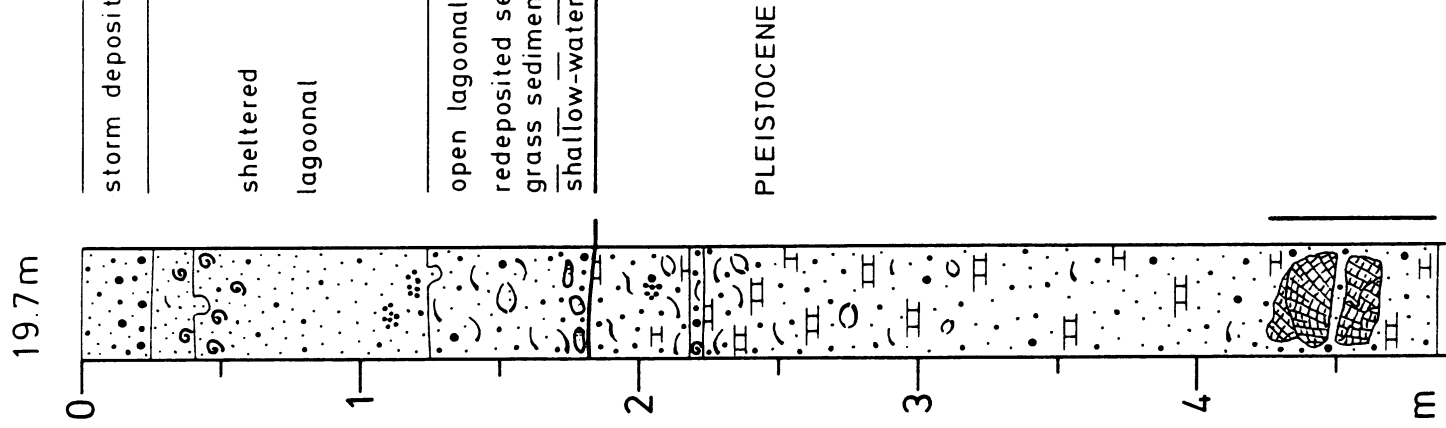


Abb. 34

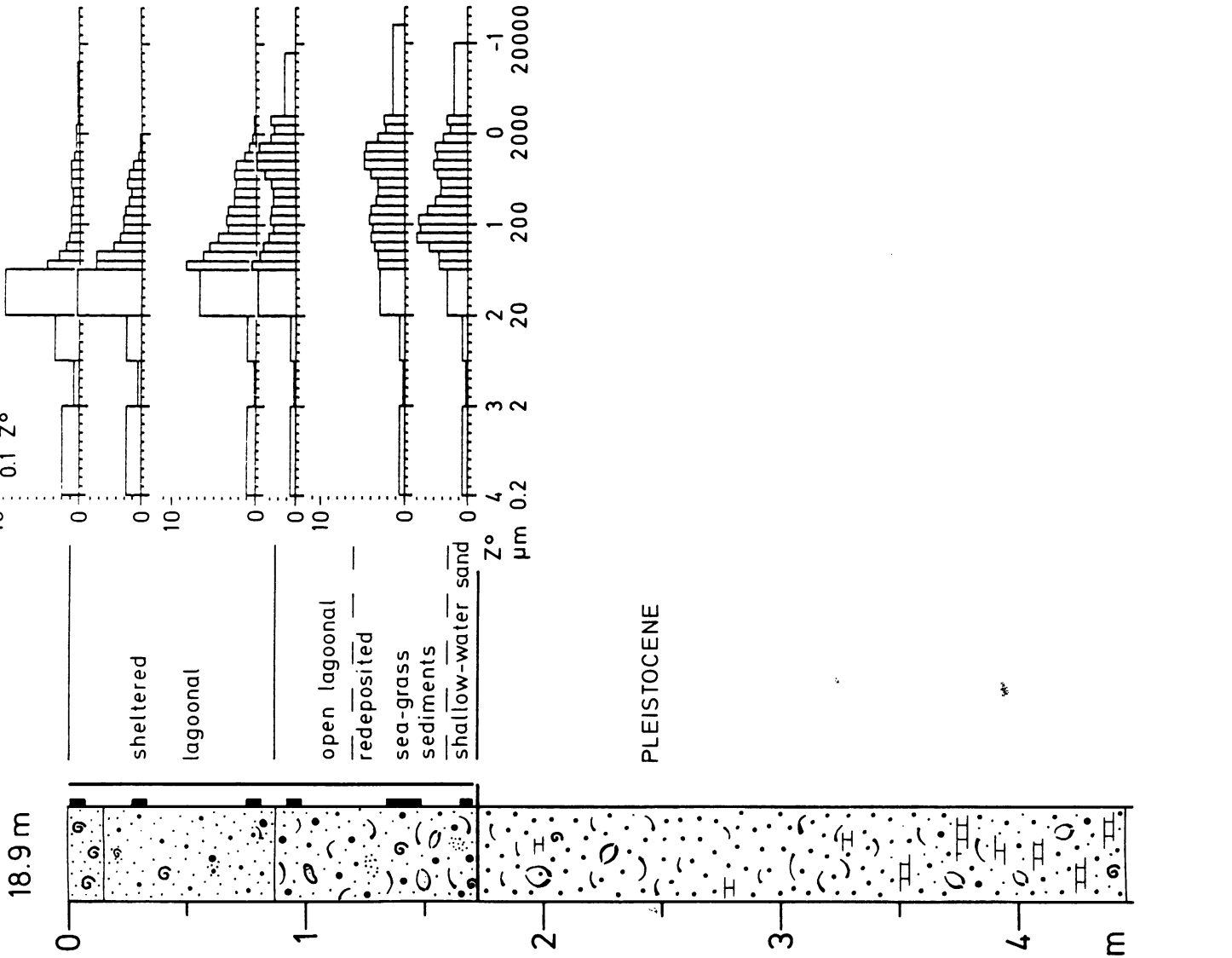
NL 037



NL 036

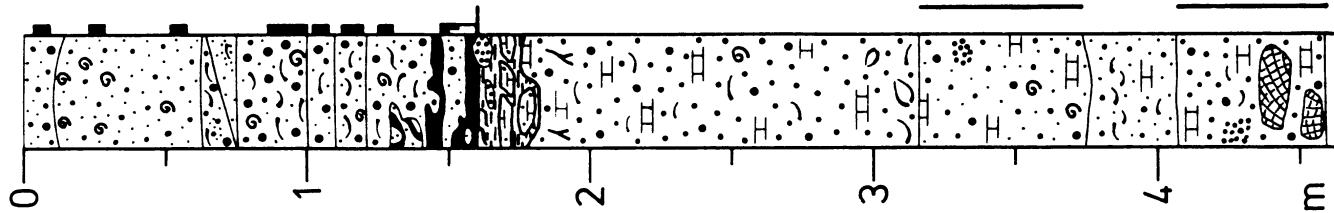


NL 035



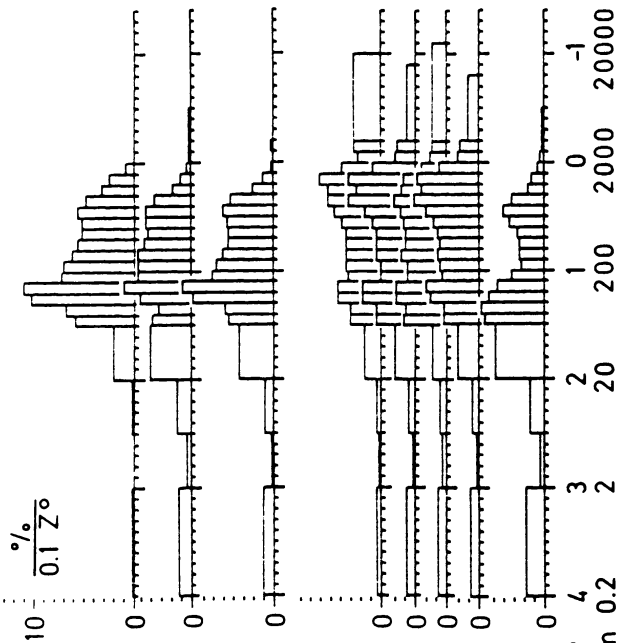
NL 039

14.3 m



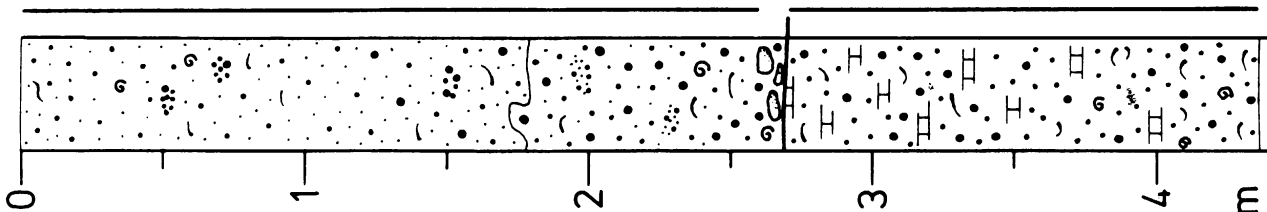
storm deposit
sheltered lagoonal
open lagoonal
redeposited sea-grass sediments
peat marsh (washover sand)
7870

PLEISTOCENE



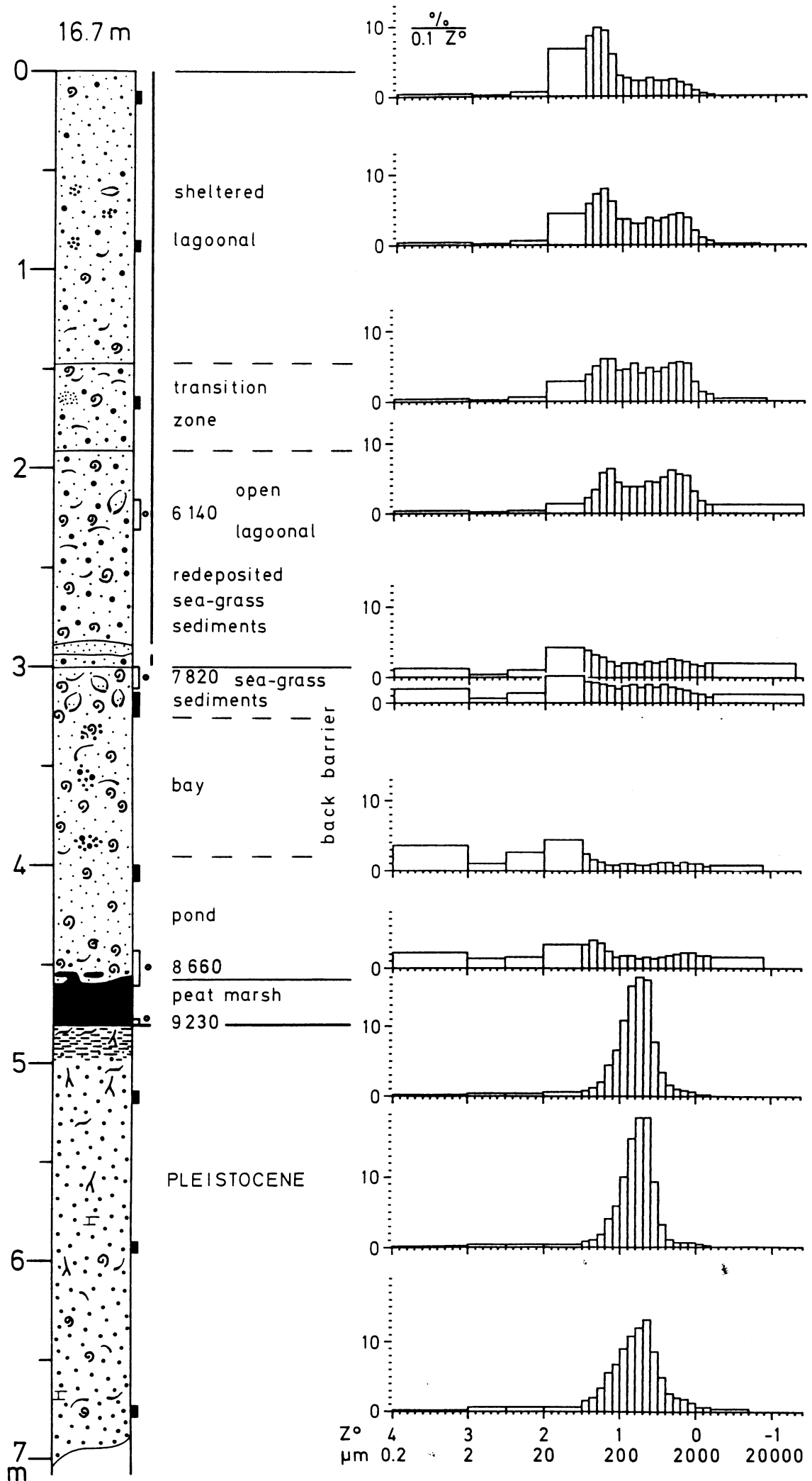
NL 038

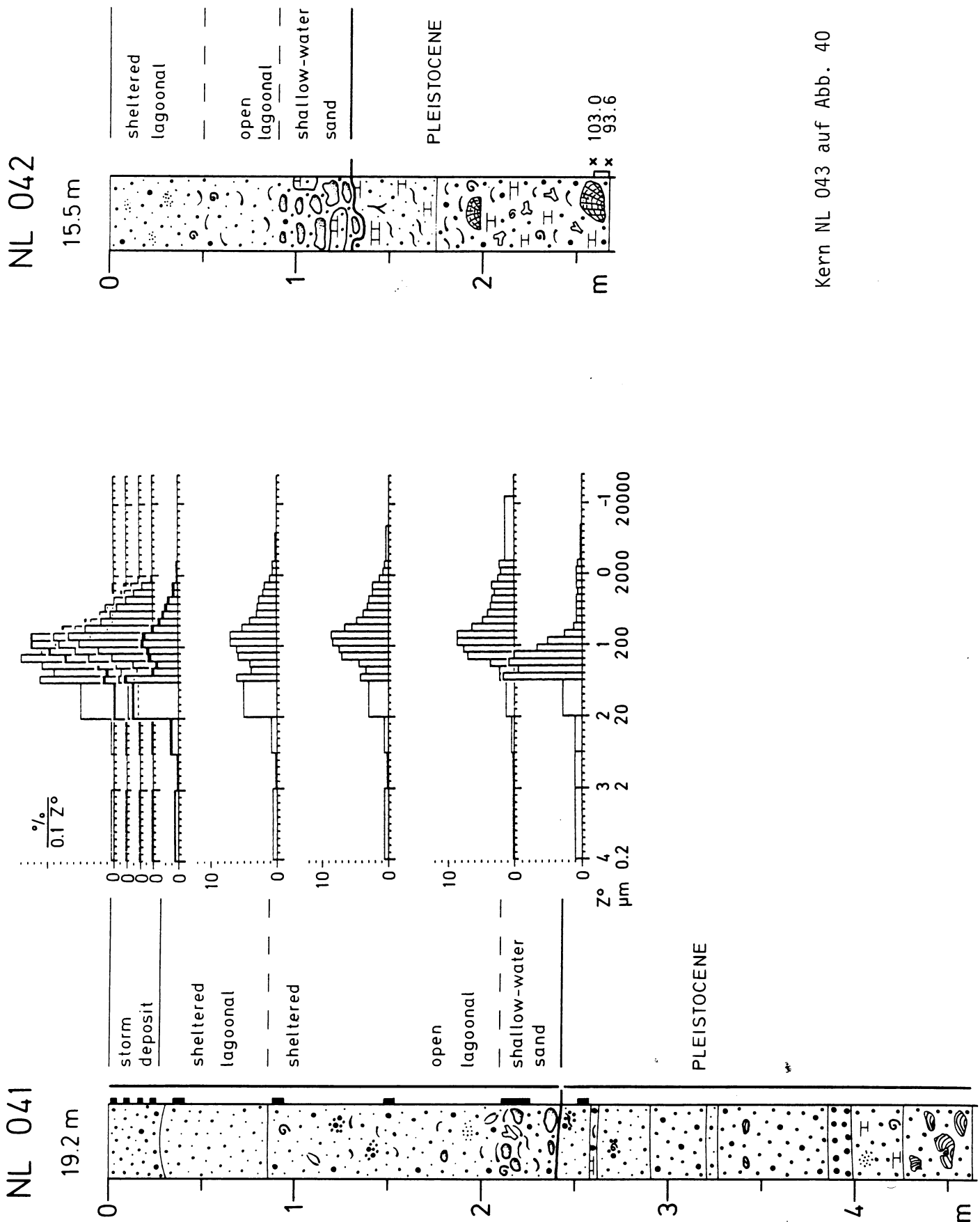
11.1 m



sheltered lagoonal
open lagoonal
open lagoonal
shallow-water sand

PLEISTOCENE



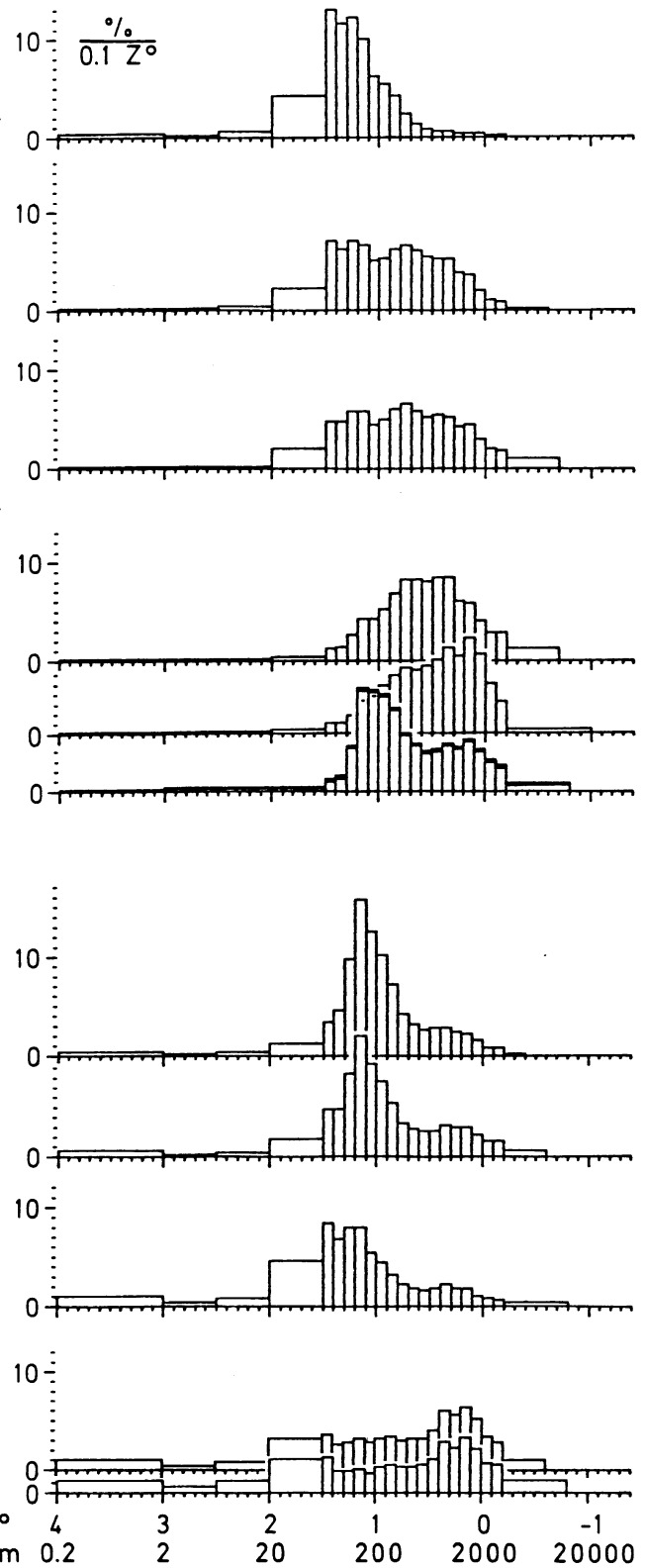
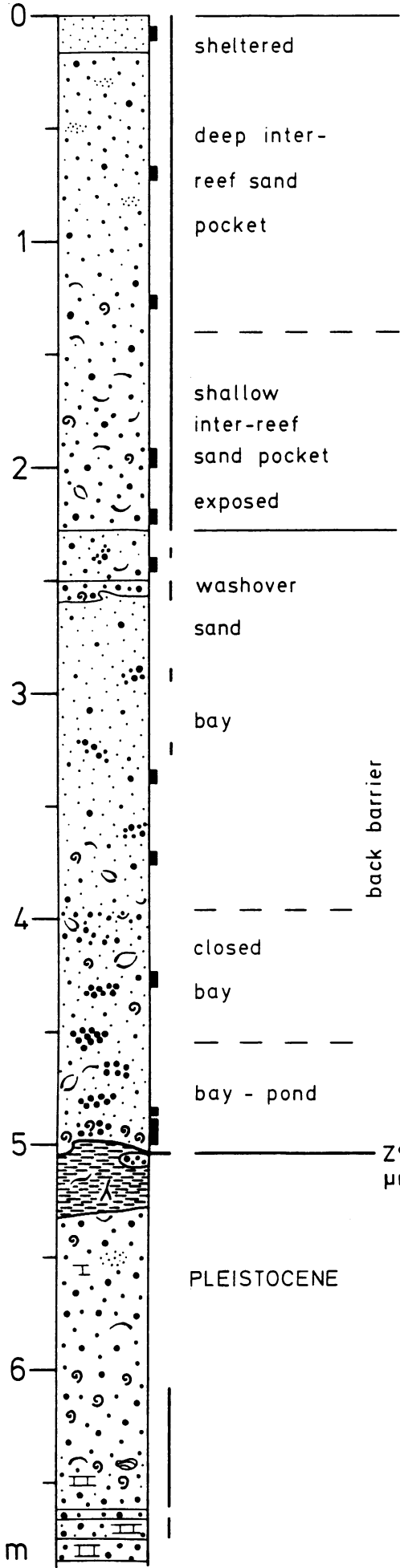


Kern NL 043 auf Abb. 40

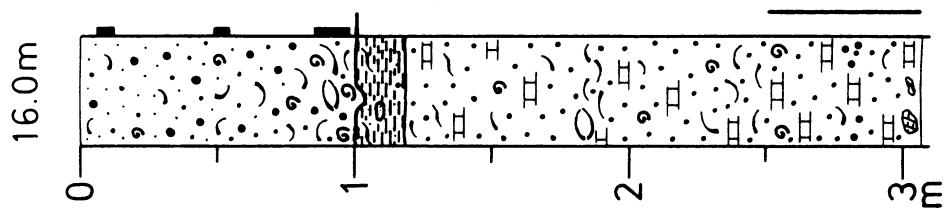
Abb. 38

NL 044

19.2 m



NL 046

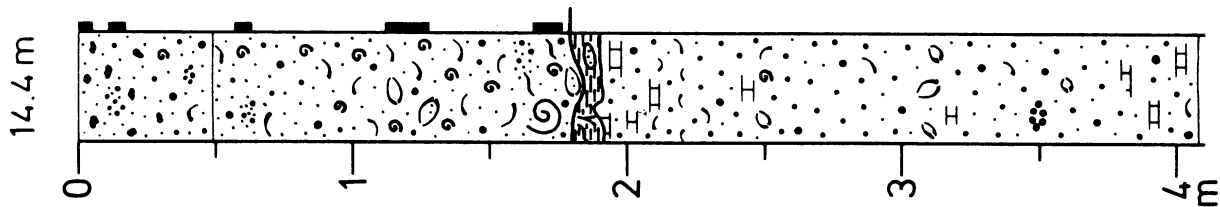


10%
0.1 Z°

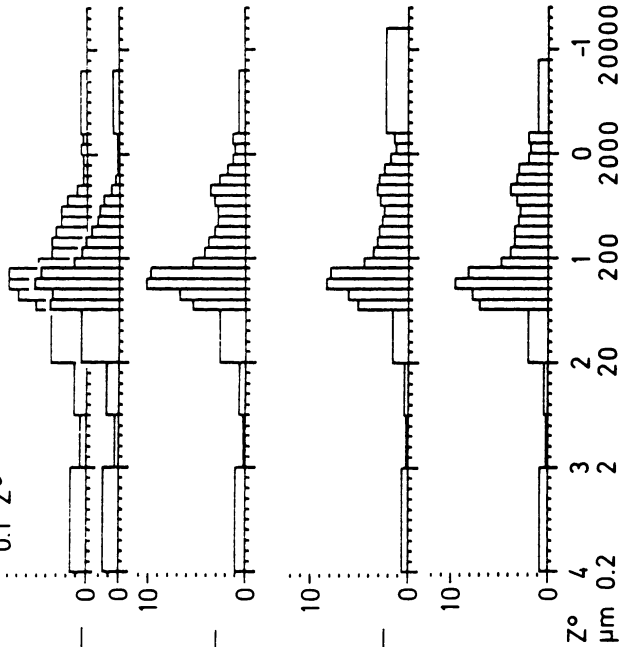


PLEISTOCENE

NL 045

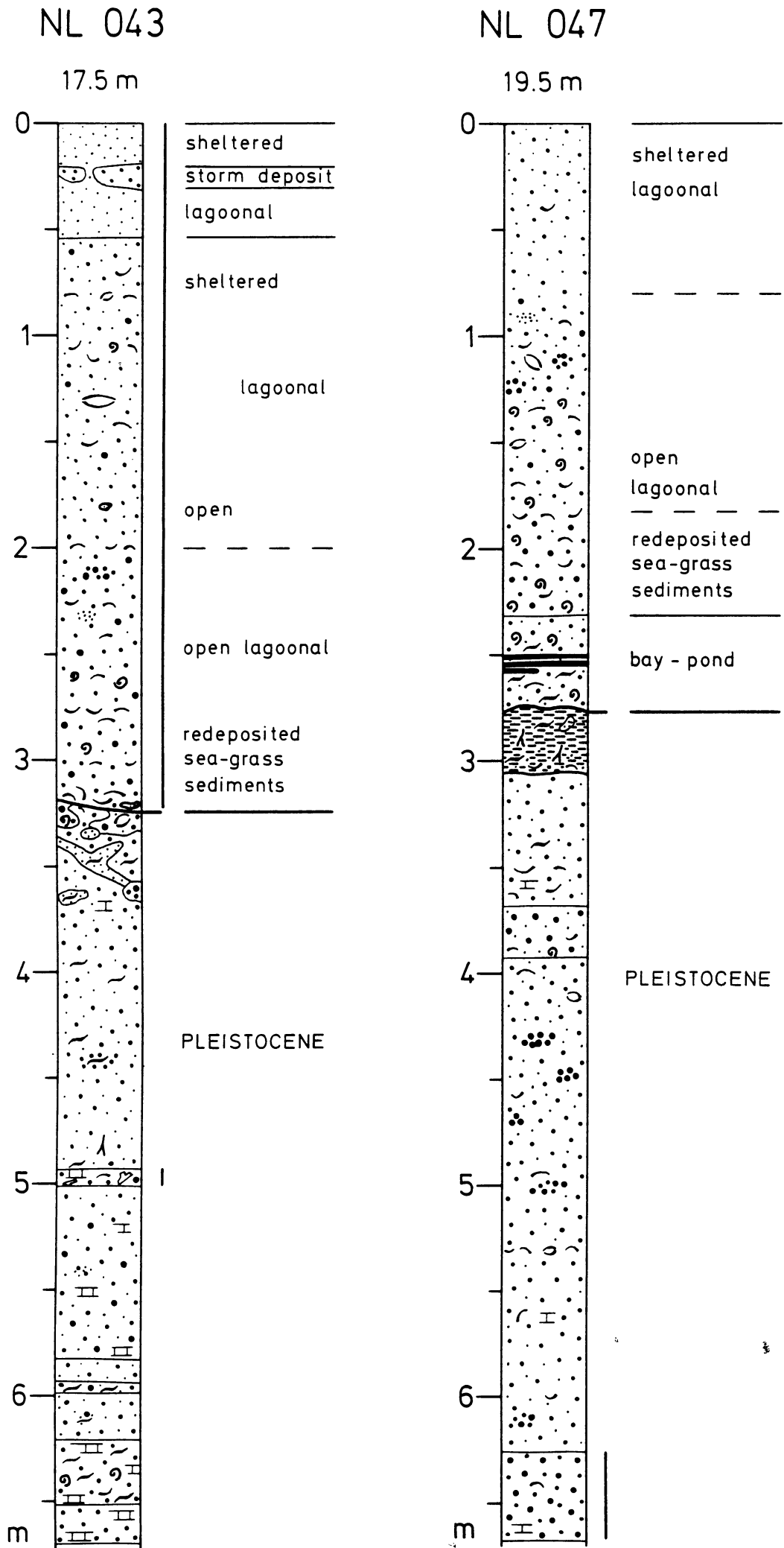


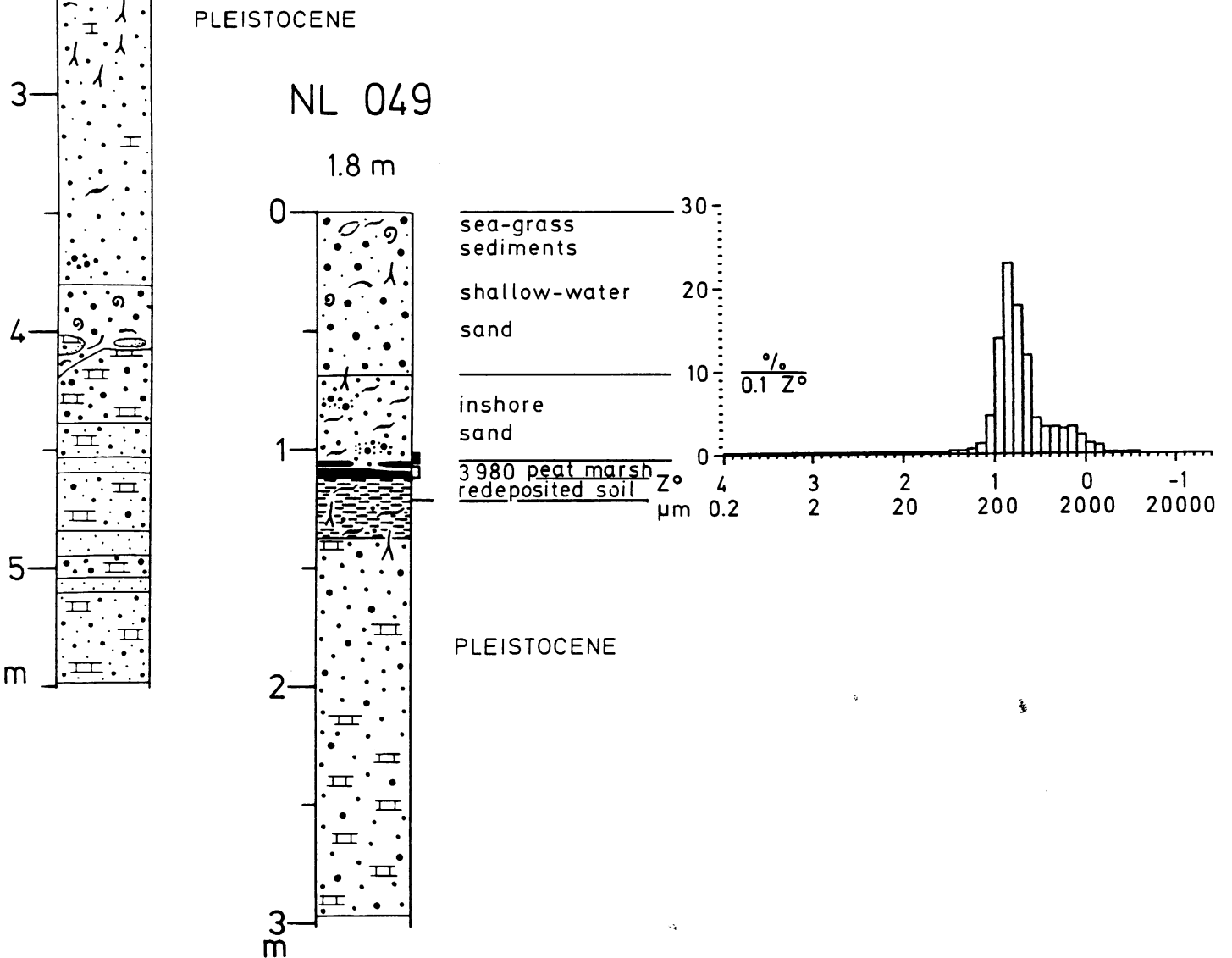
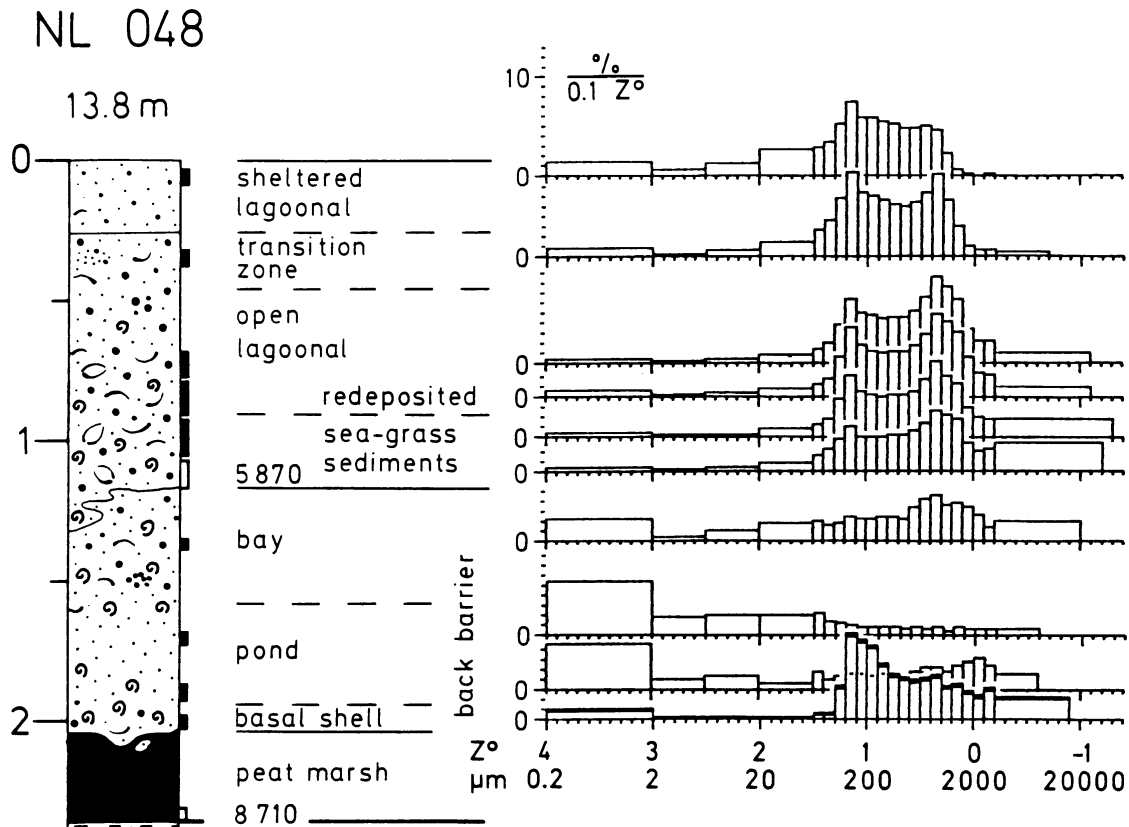
10%
0.1 Z°



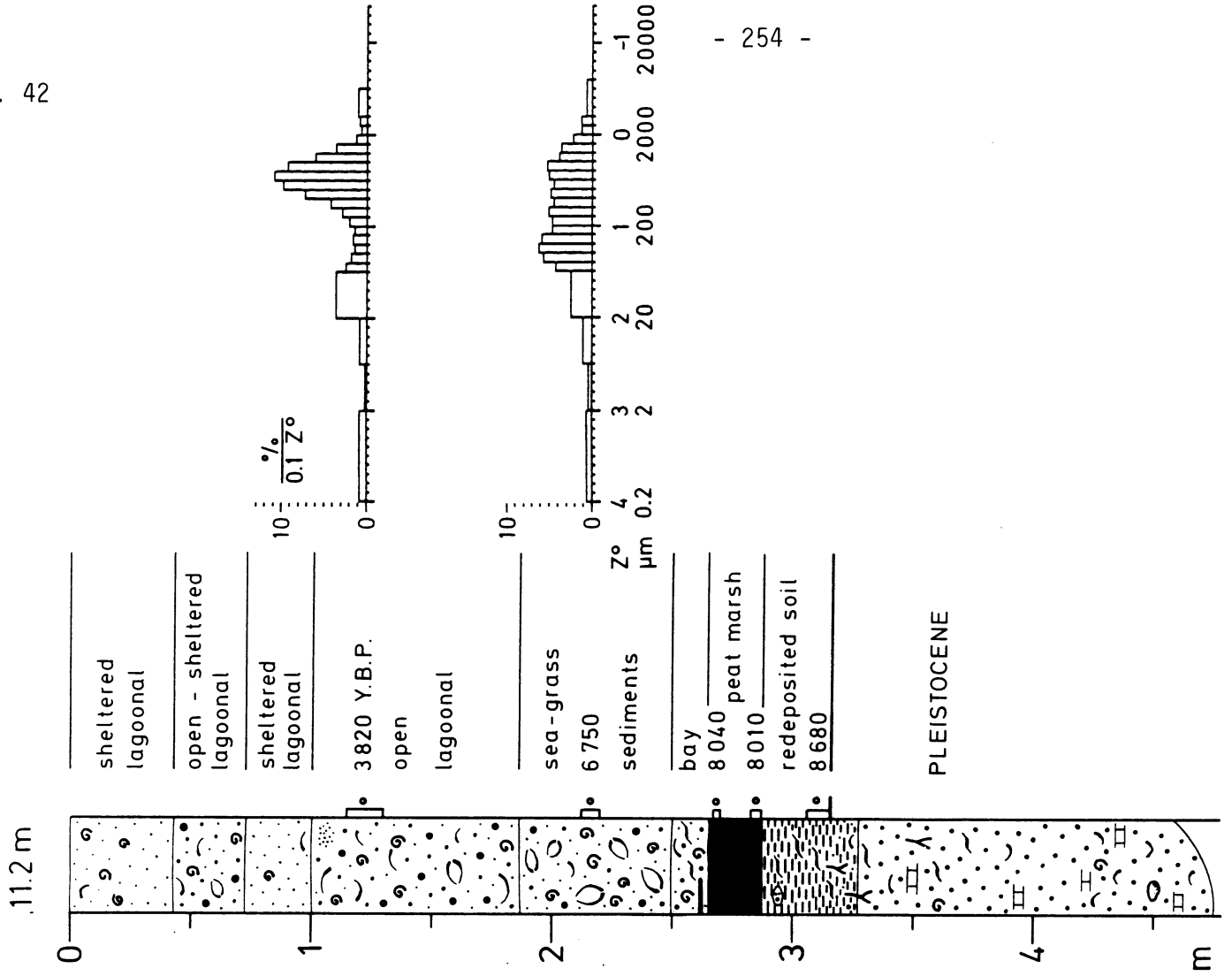
PLEISTOCENE

Abb. 40

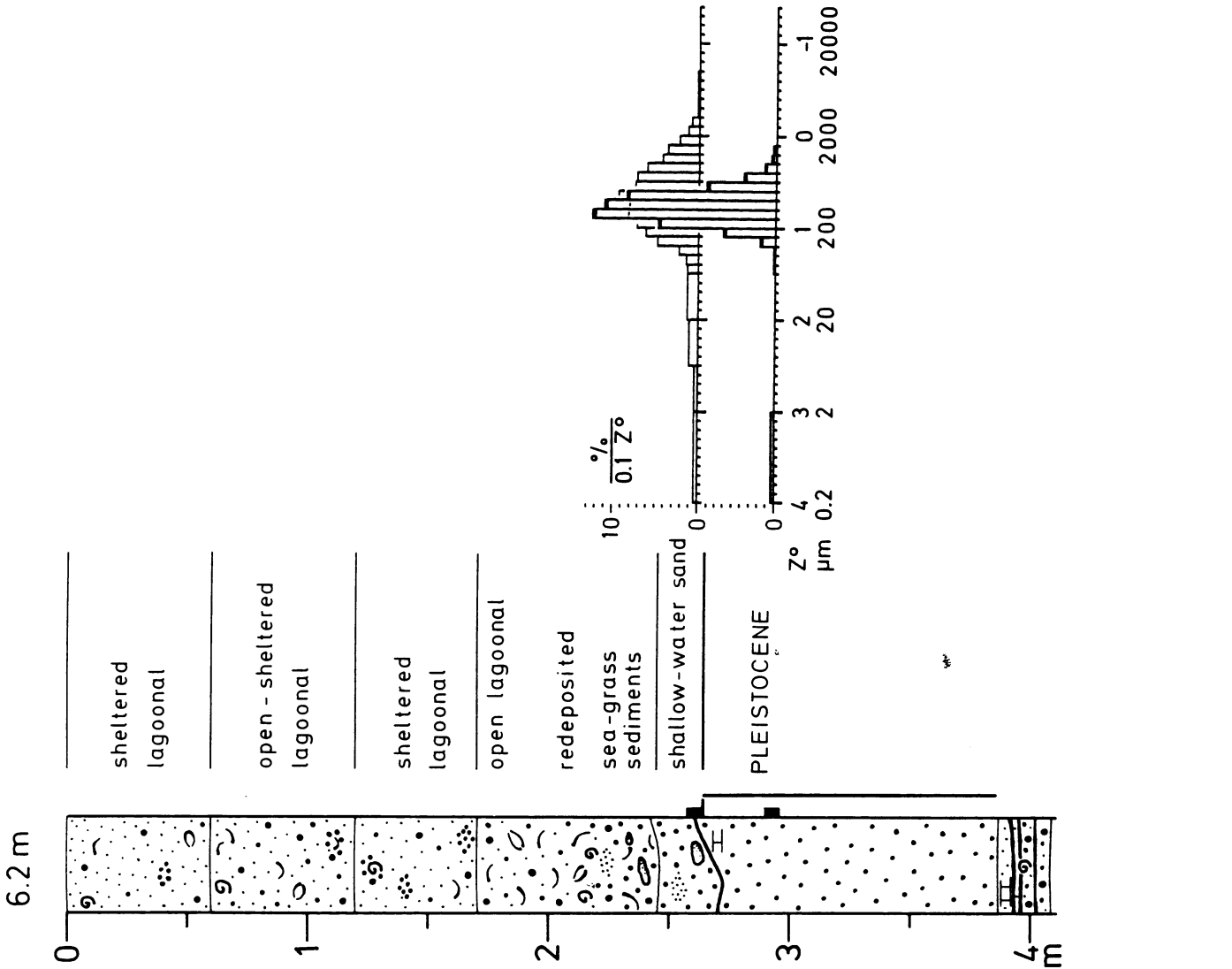




NL 051

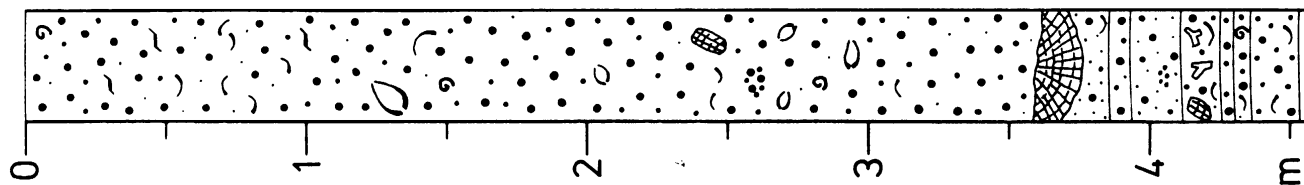


NL 050



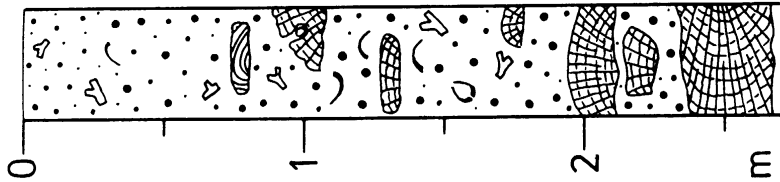
NL 052

4.0 m



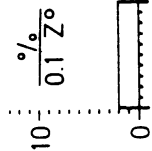
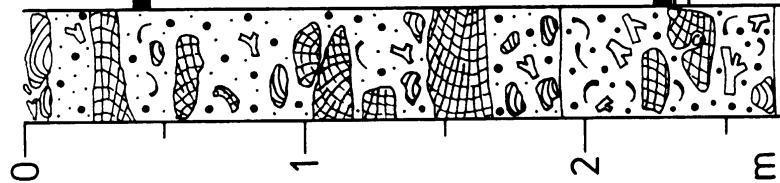
NL 053/1

4.8 m

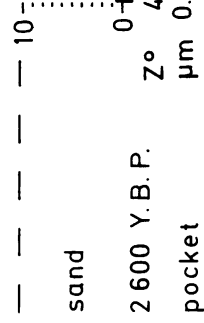


NL 053/2

3.4 m



reef sediments
 build-up with
 cavity infill



sand
 2 600 Y.B.P.
 pocket

Grobkornzusammensetzungen (Abb. 44 bis 49; Tab. 15)

Abb. 44

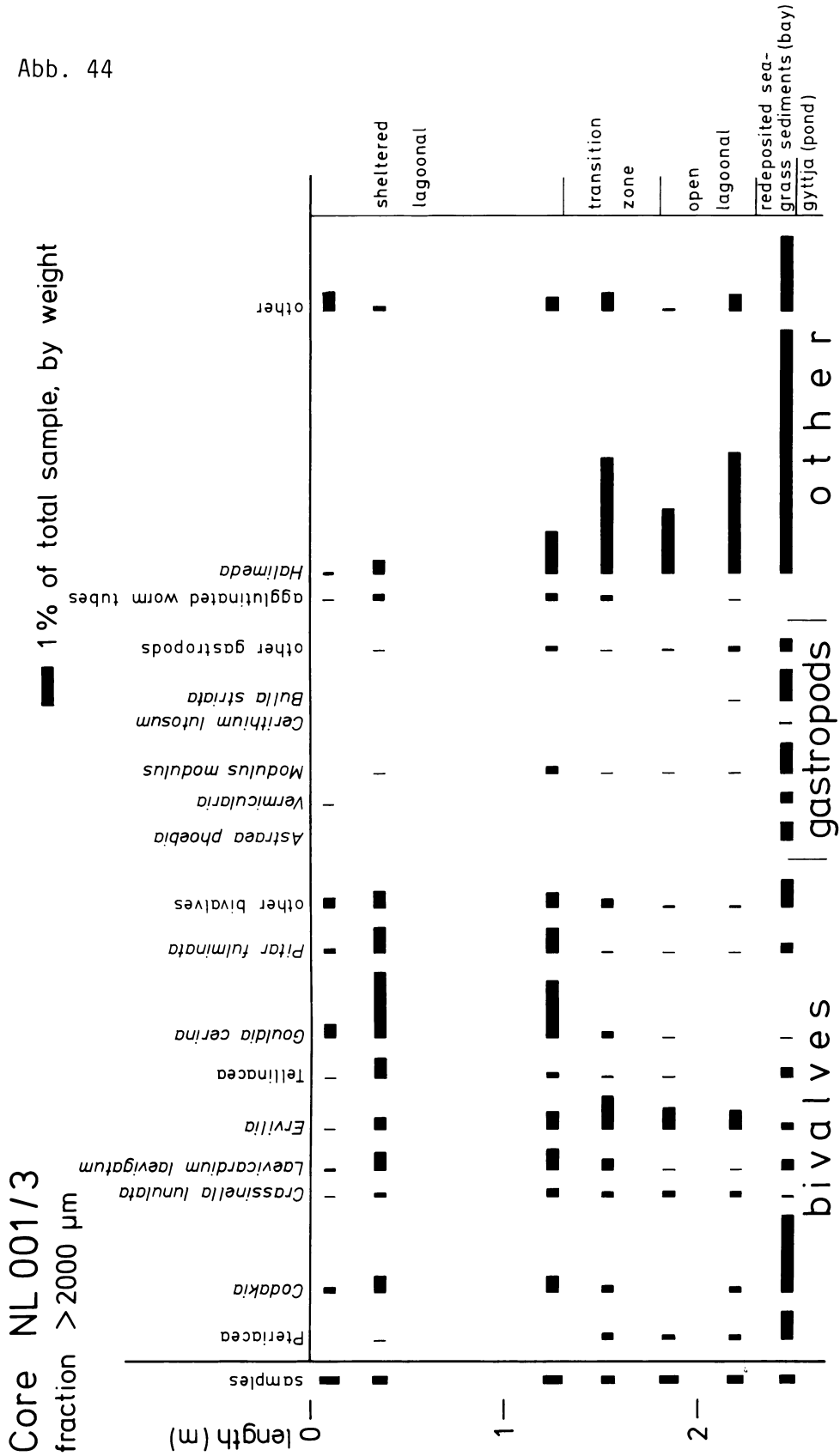


Abb. 44: Zusammensetzung der Fraktionen > 2000 µm im Kern NL 001/3 (in Prozenten der Gesamtprobe)

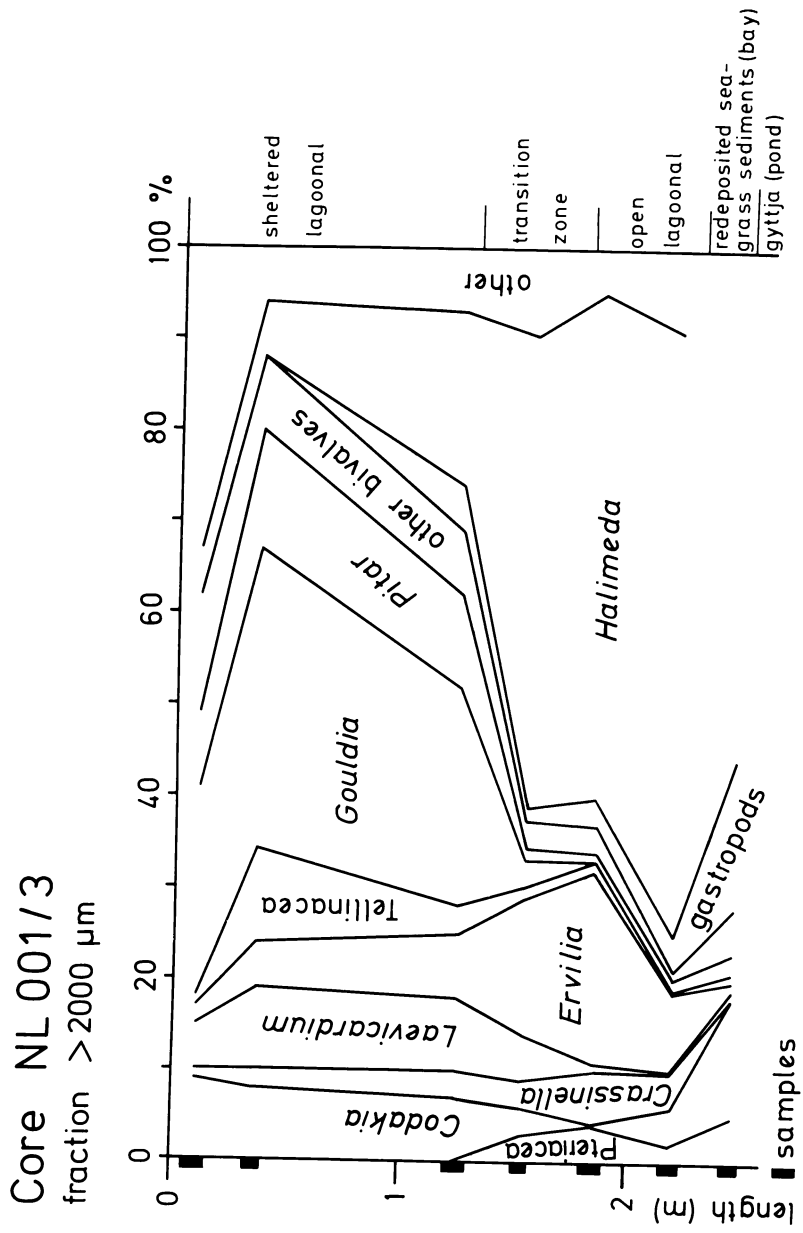


Abb. 45

Abb. 45: Zusammensetzung der Fraktion > 2000 µm im Kern NL 001/3 (in Prozenten der Fraktion > 2000 µm)

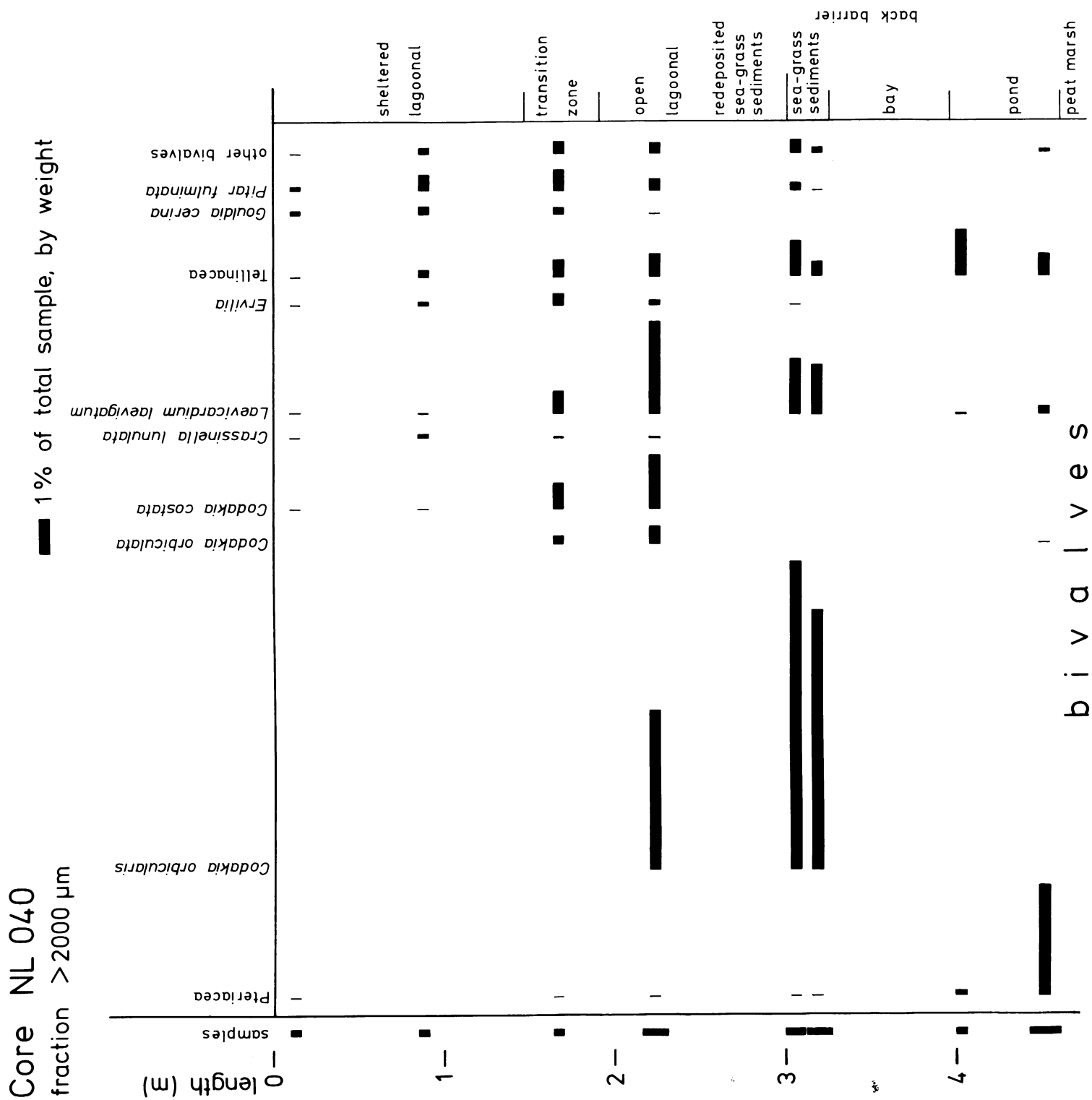


Abb. 46: Zusammensetzung der Fraktion > 2000 µm im Kern NL 040 (Bivalven)

Abb. 47

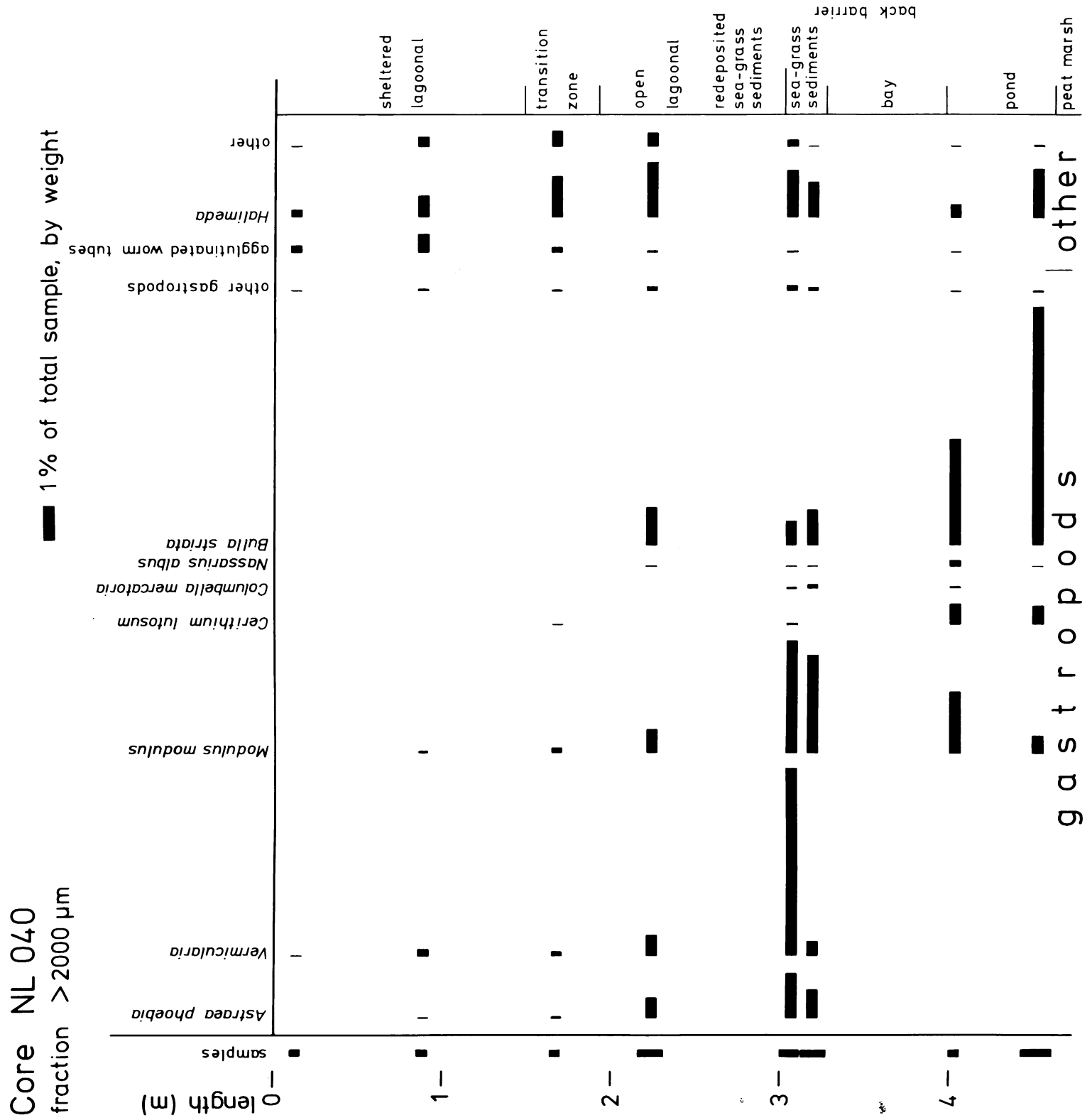


Abb. 47: Zusammensetzung der Fraktion > 2000 µm im Kern NL 040 (Gastropoden und andere Komponenten)

Abb. 48

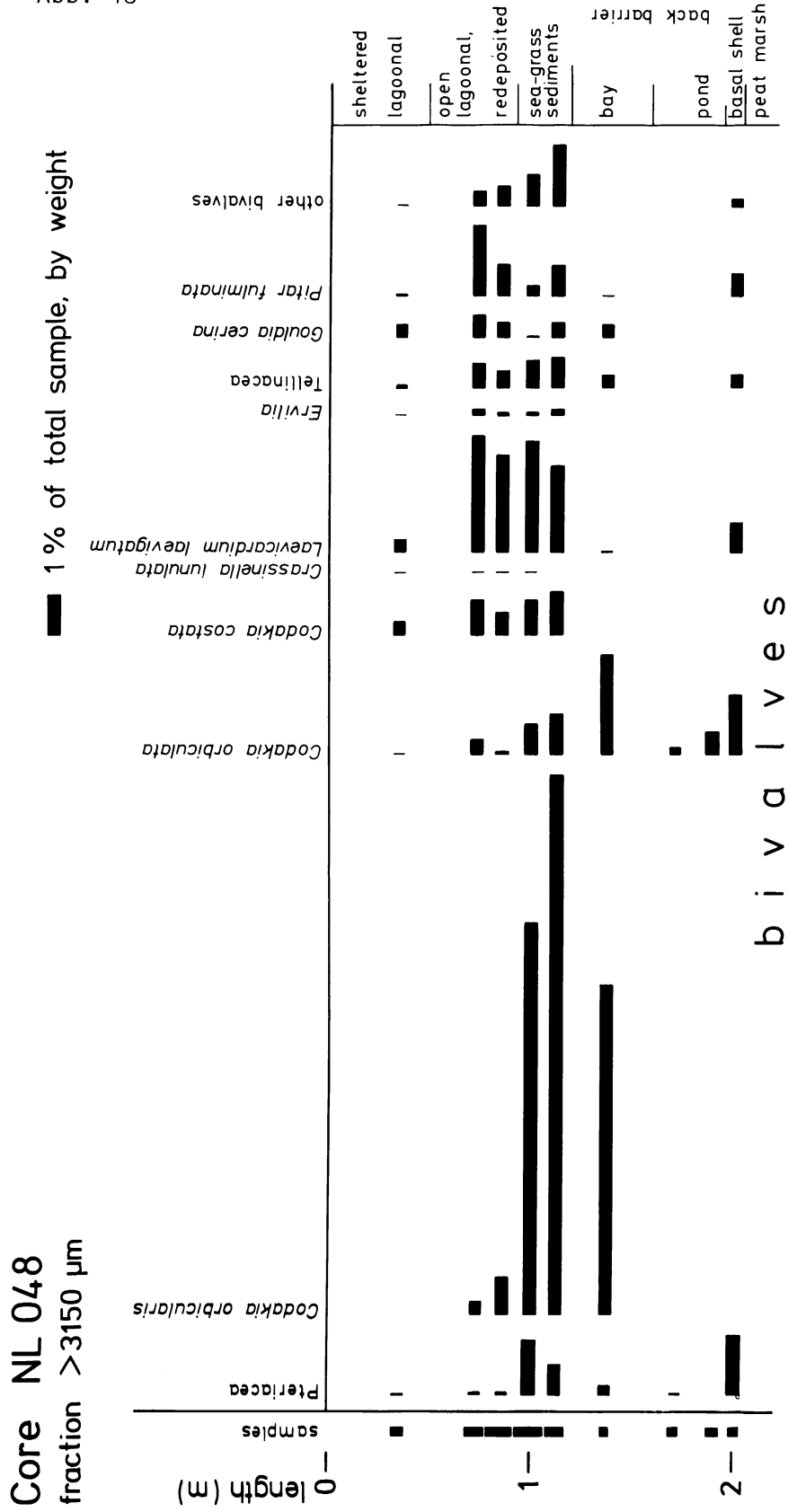


Abb. 48: Zusammensetzung der Fraktion > 3150 μm im Kern NL 048 (Bivalven)

Abb. 49

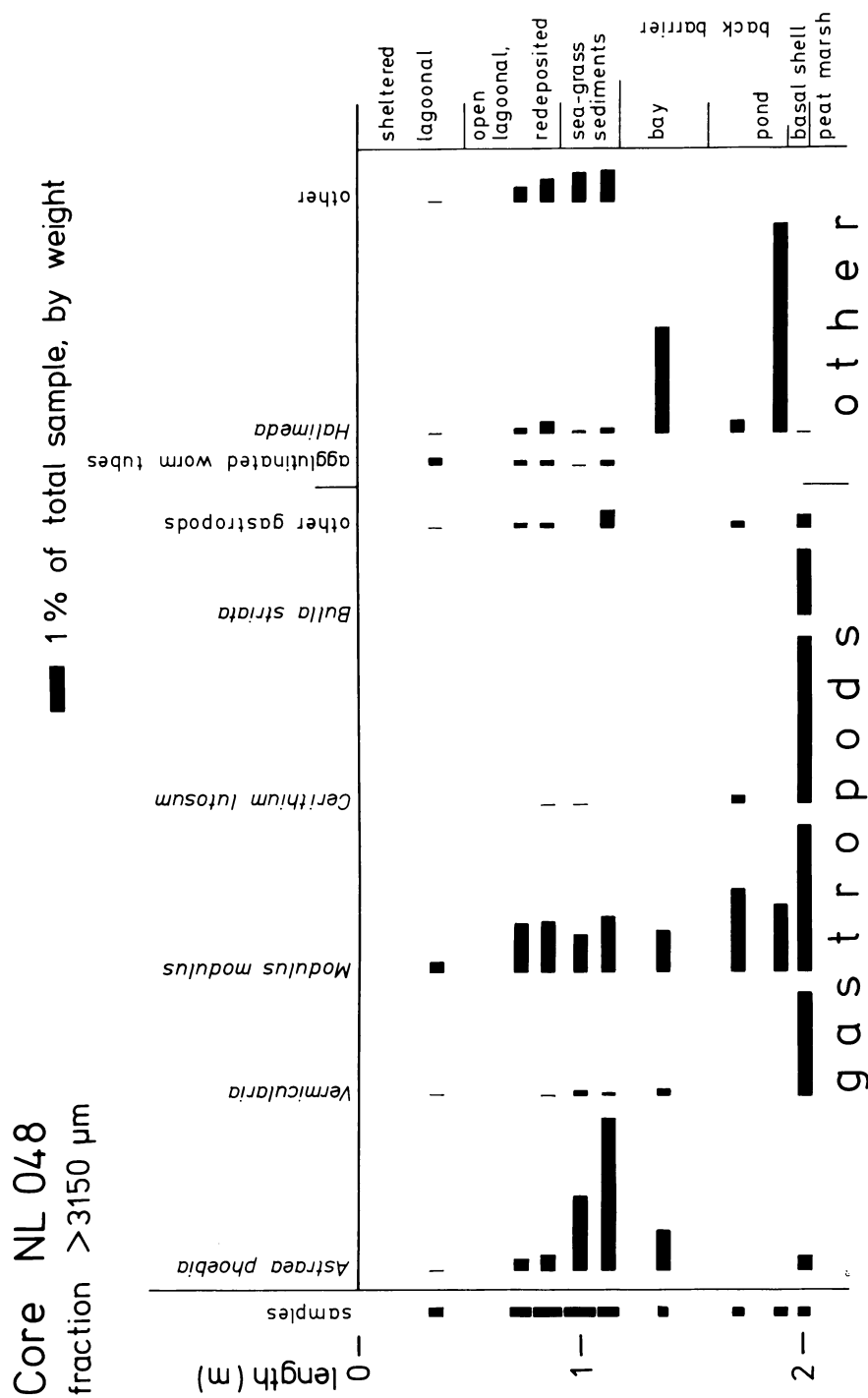


Abb. 49: Zusammensetzung der Fraktion > 3150 μm im Kern NL 048 (Gastropoden und andere Komponenten)

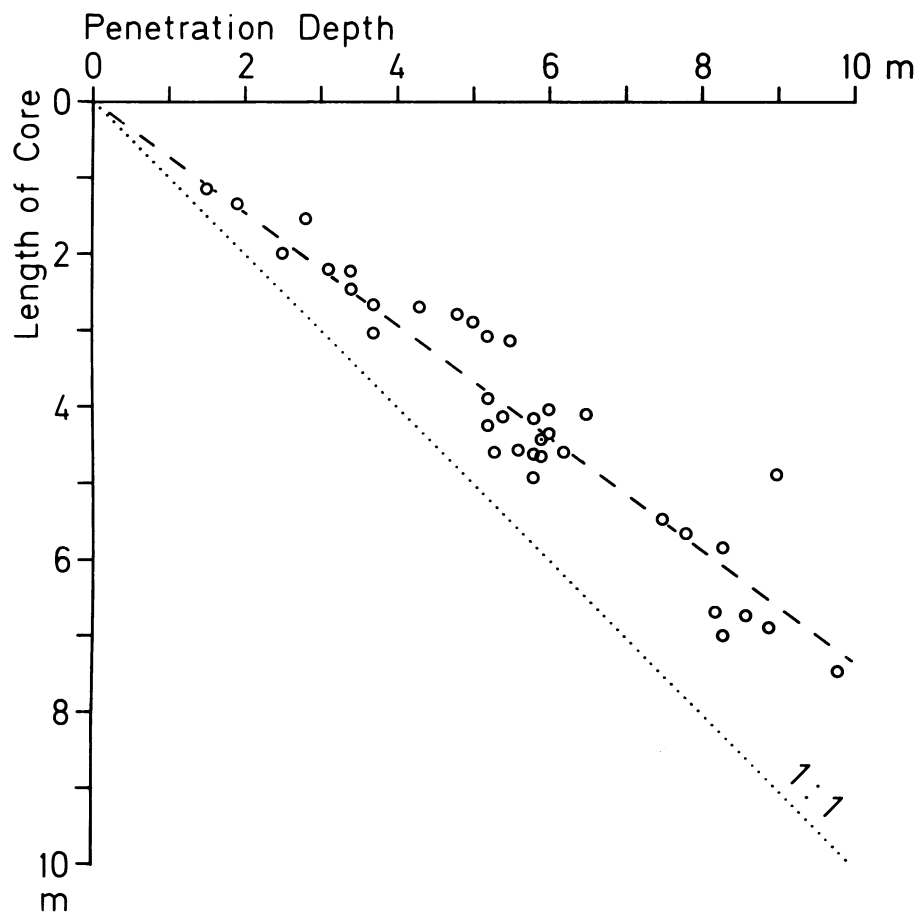


Abb. 50: Eindringtiefe und Länge der Sedimentkerne

Abb. 51: Vergleich korrigierter und unkorrigierter Korngrößenverteilungs-Histogramme (Kern NL 040; method A = graphische Korrektur; method B = Bestimmung der Maschenweiten der Siebe; Kap. 9.6.2.)

Abb. 51

