SEDIMENTAÇÃO COSTEIRA

Complexo: laguna, planície de maré; ilhas barreira

Fig. 576

1. Laguna

- corpos de água rasa, salobra/salgada
- separação do mar: bancos arenosos (ilhas barreira)
- comunicação: canais de maré (tidal inlet)
  - tamanho (f) → volume de água que flui pelo canal
    número ↓ (f)
  - freqüência/intervalo das marés,
  - descarga dos rios

- rasas, grandes extensões: Cananéia/Iguape
  laguna (lagoa) dos Patos (RS)
- locais/épocas de formação

1. Holoceno: suprimento de areia abundante,
2. Áreas adjacentes à plataformas continentais (mares rasos) amplas, baixo declive, velocidade da transgressão foi mais lenta.
3. Locais onde o mar só recentemente atingiu o nível atual.

- tipos de sedimentação

ambiente protegido
baixa energia
pouca atividade correntes

↓

a) sedimentos lamosos, bioturbações, ondulações
b) areias: tempestades; leques de lavagem; eólicas; erosão das margens

- clima: árido: crostas de sais
- tropical: vegetação de mangue

Figs. 18;6

2. Planície de maré

2.1. Generalidades

- áreas de relevo baixo: < 1°
- deposição: dentro do período de maré
- ocorrência: perímetro de ambientes continentais – Fig. 576
- associação: estuários, lagunas, baías, ilhas barreira
- correntes de maré bi-polares ⇆ simétricas/assimetricas
- velocidades correntes de maré

  30 – 50 cm/seg – micro-ondulações Fig. 12

  150 cm/seg – canais – macro-ondulações

2.2. Sedimentos

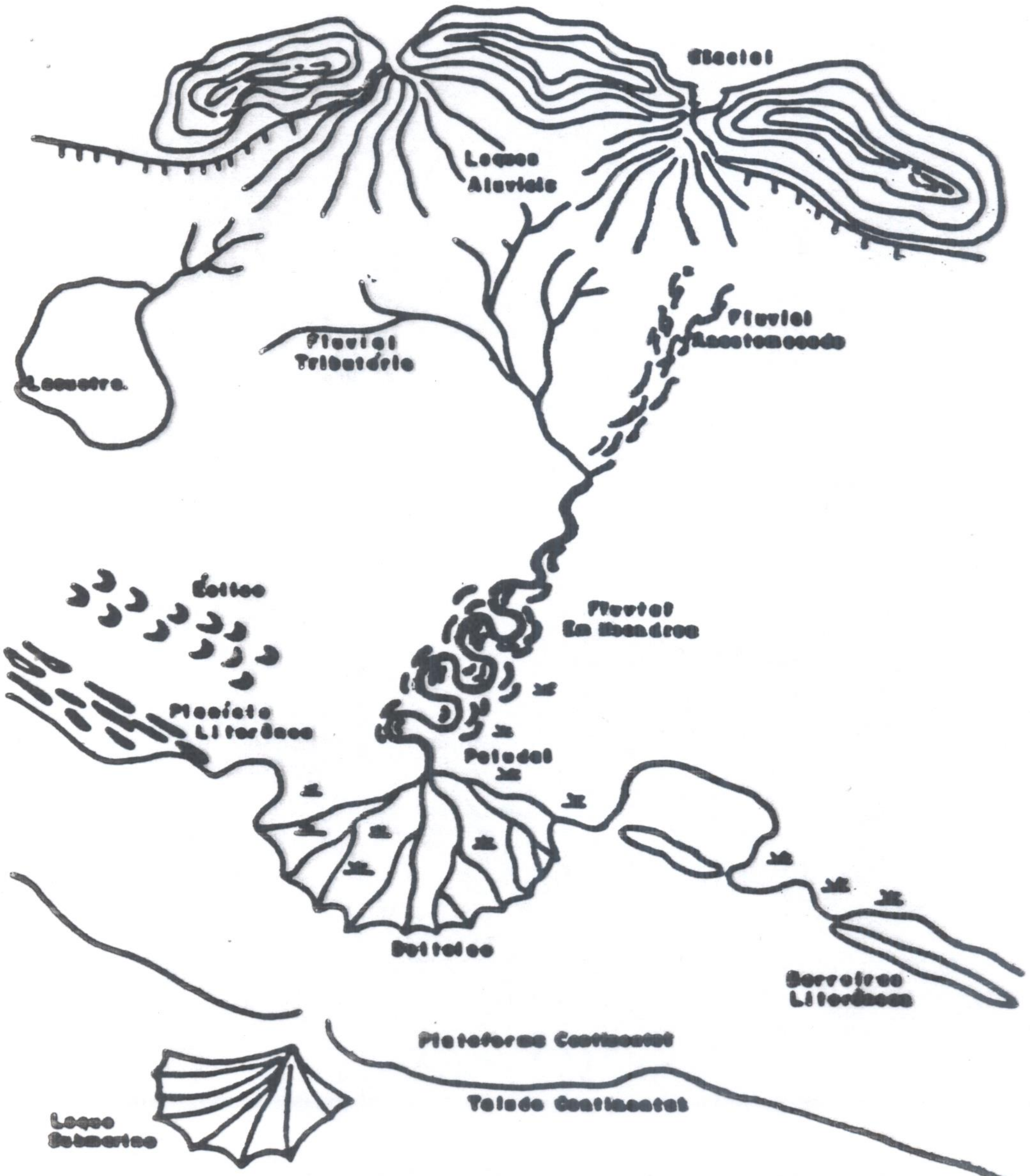
Fig. 3.2

- argila – silte – areia
- pelotas de argila + concha →canais de maré
- planícies: areia – mixta – lama

2.3. Depósitos – Estruturas sedimentares

- Geometria: alongados paralelos à linha de costa , depósitos de canais de maré.
- canais de maré
- planície de areia, mixta, de lama — Fig. 3.15
- ritmitos de maré — Fig. 3.14; 11
- feixes de maré (tidal bundle) — Fig. 7 - 8

S I S T E M A S   D E P O S I C I O N A I S



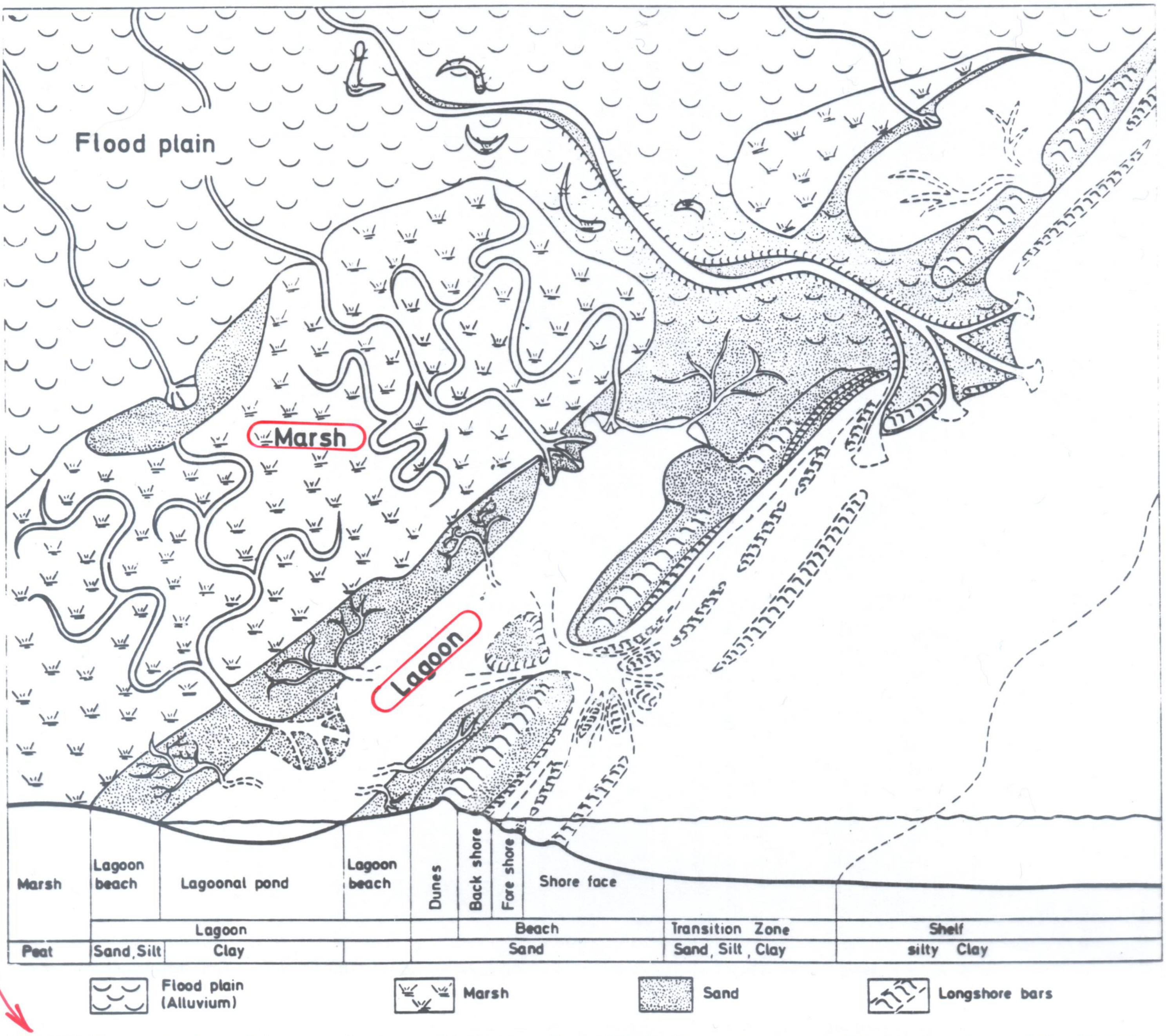


Fig. 576. Reconstruction of the coastal geomorphic feature of Cretaceous times showing various environments of deposition. In the lower part coastal sand is developed as barrier islands, while in the uppermost part it is developed as mainland beach. (After Reineck 1971; originally modified after Masters 1965)

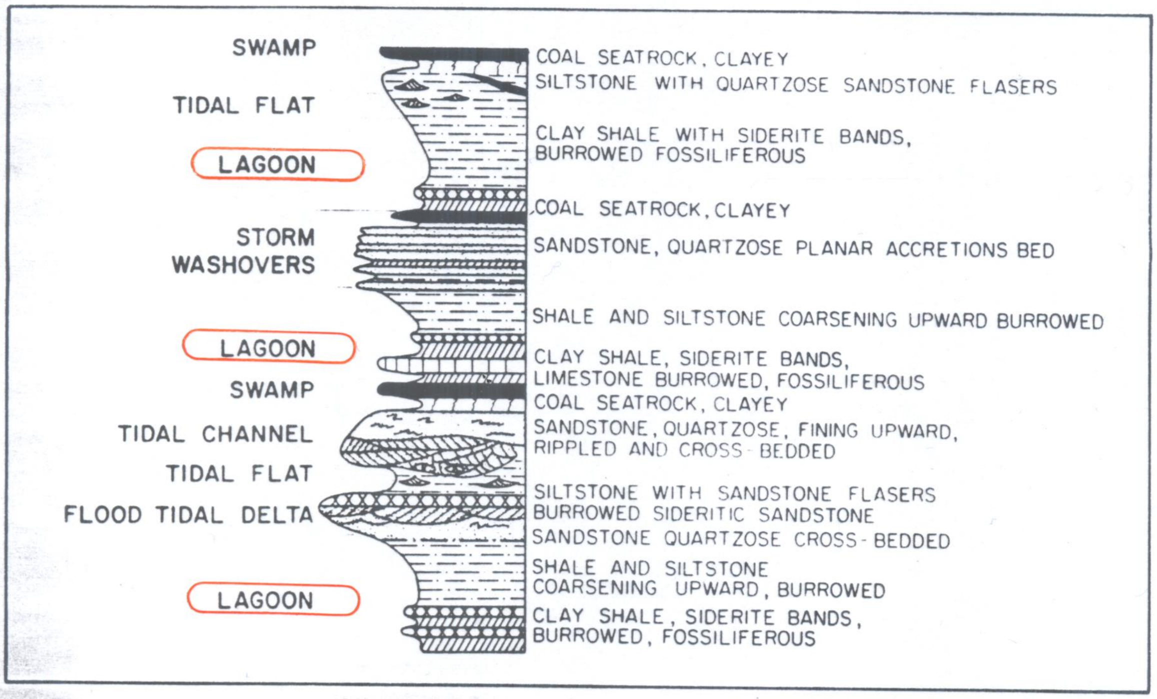


Figure 18

Generalized lagoonal sequence through back-barrier deposits in the Carboniferous of eastern Kentucky and southern West Virginia. Such sequences range from 7.5 to 24 m thick (from Horne and Ferm, 1978, Fig. 11).

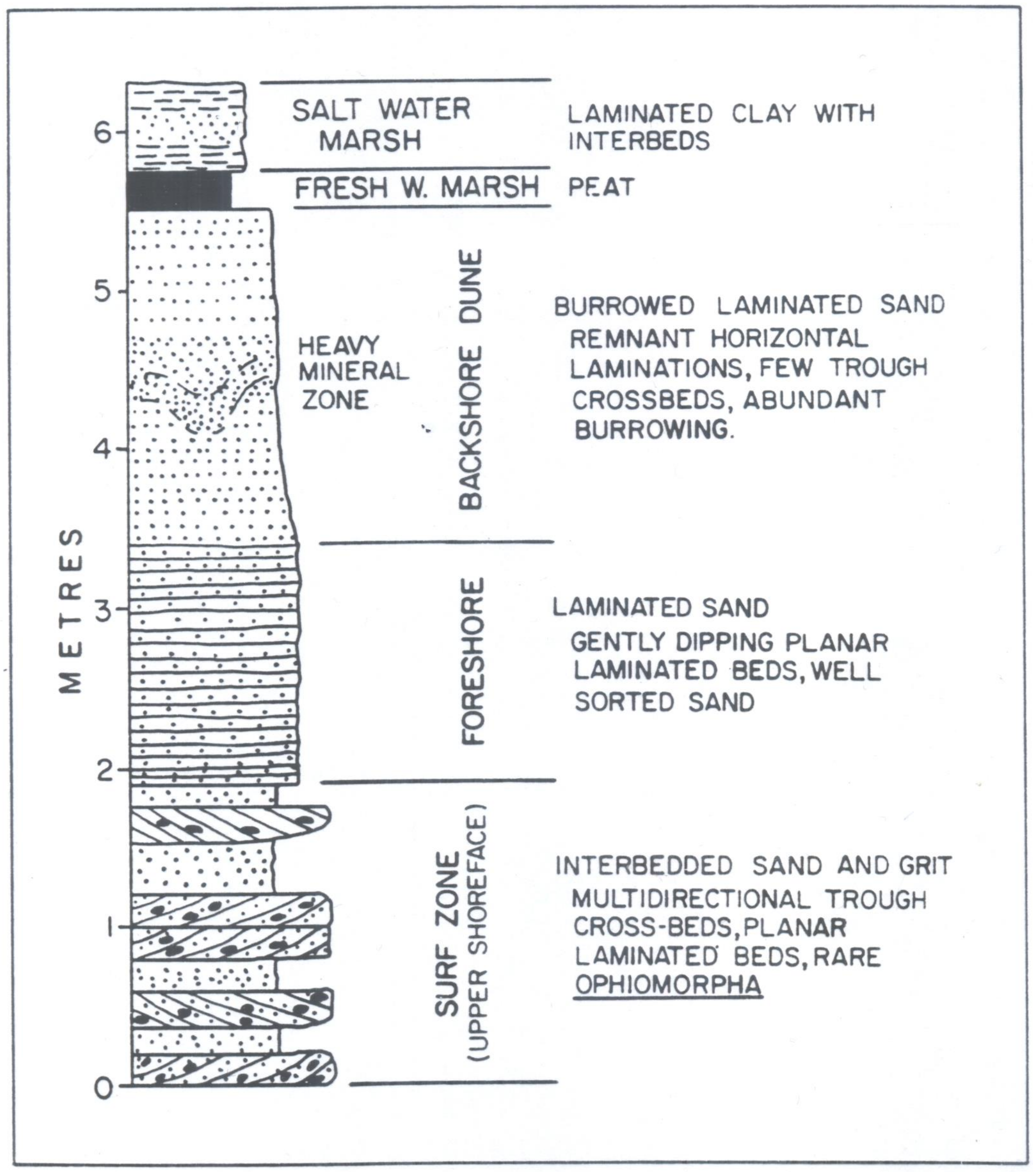
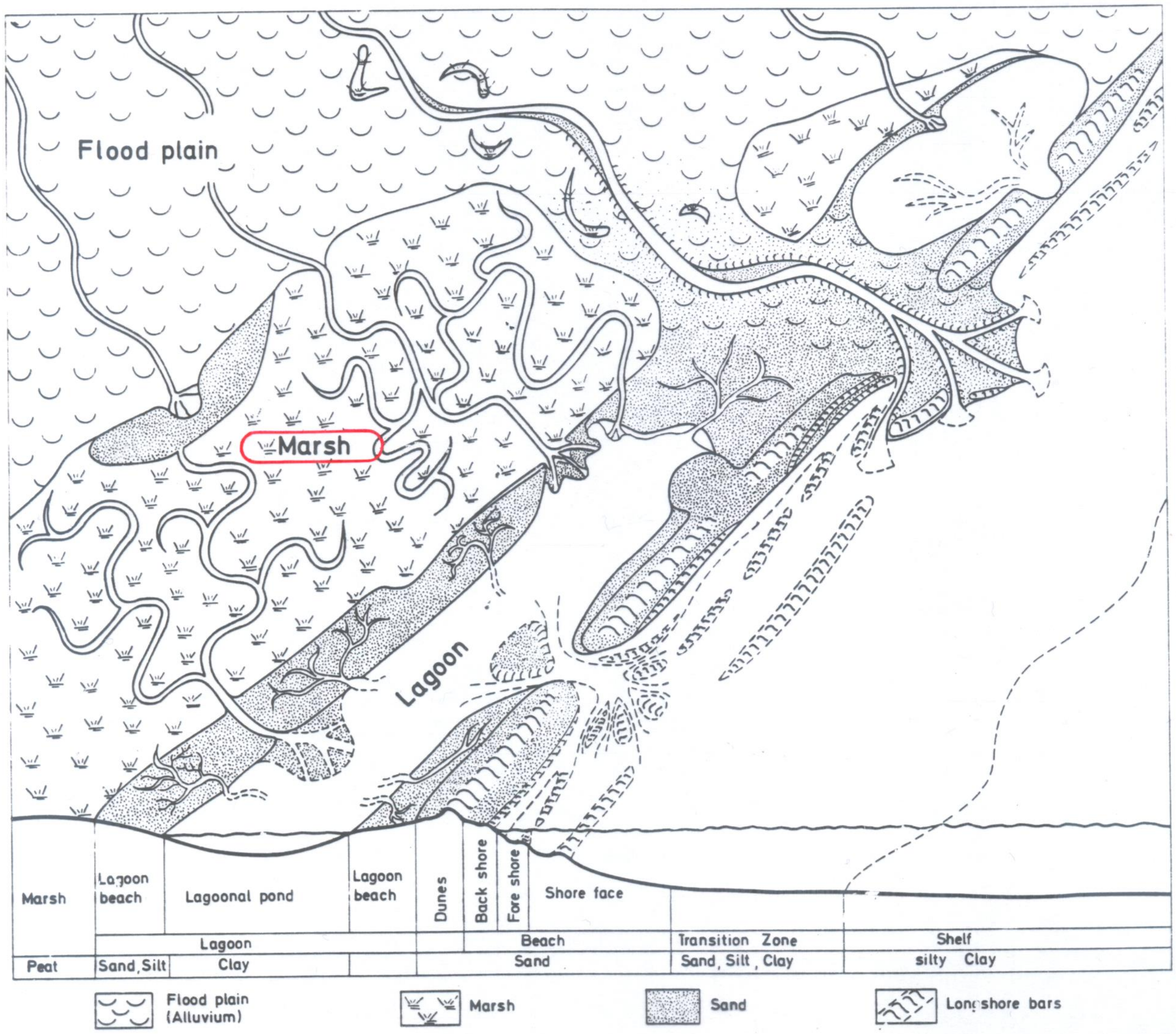


Figure 6
Generalized barrier sequence in the Upper Tertiary Cohansey Sand of New Jersey (modified from Carter, 1978).



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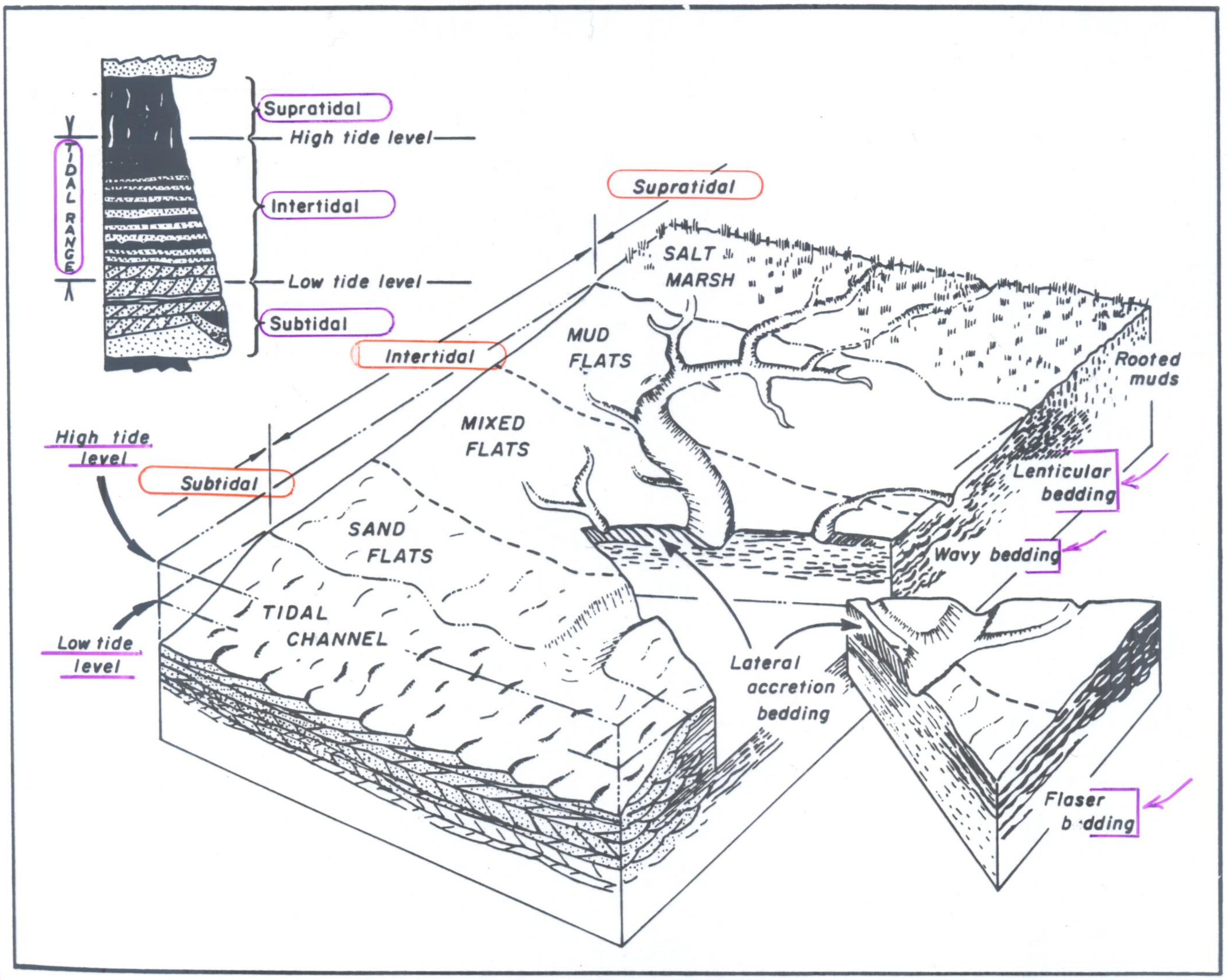

Figure 12 Block diagram of a typical siliciclastic tidal flat. The tidal flats fine toward the high-tide level, passing gradationally from sand flats, through mixed flats, to mud flats and salt marshes. An example of the upward-fining succession produced by tidal flat progradation is shown in the upper left corner. The sedimentary structures reflect a landward decrease in tidal-current speeds. The cross bedding deposited on the lower portion of the sand flats, and in the adjacent tidal channel, is commonly oriented parallel to the local coastline (which parallels the back edge of the diagram).

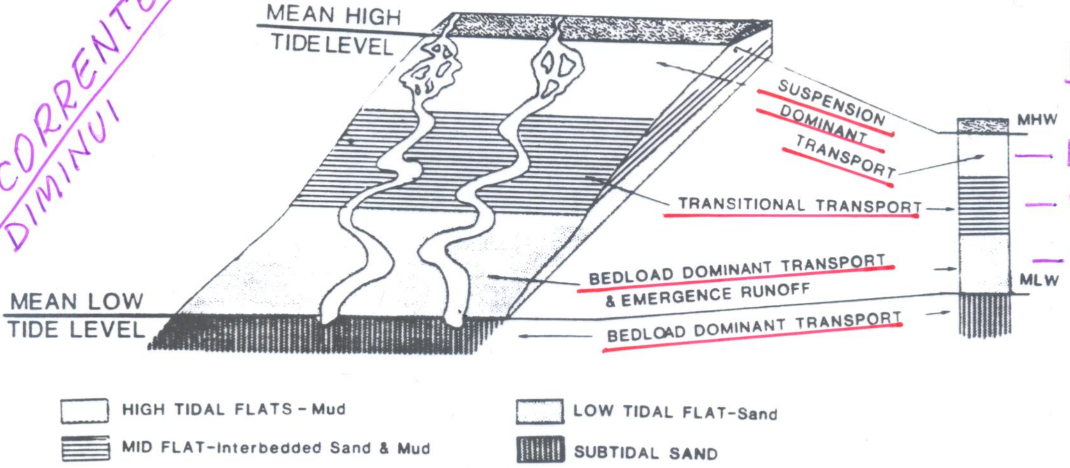

Figure 3-2. Sediment distribution, and sediment transport and depositional zones across an intertidal flat based on data from The Netherlands, West German, and eastern English coastline of North Sea based on work by Van Straaten (1959, 1961), Reineck (1963), and Evans (1975). Columnar section on right shows vertical sequence produced by progradational intertidal flat coastline (redrawn from Klein, 1972).

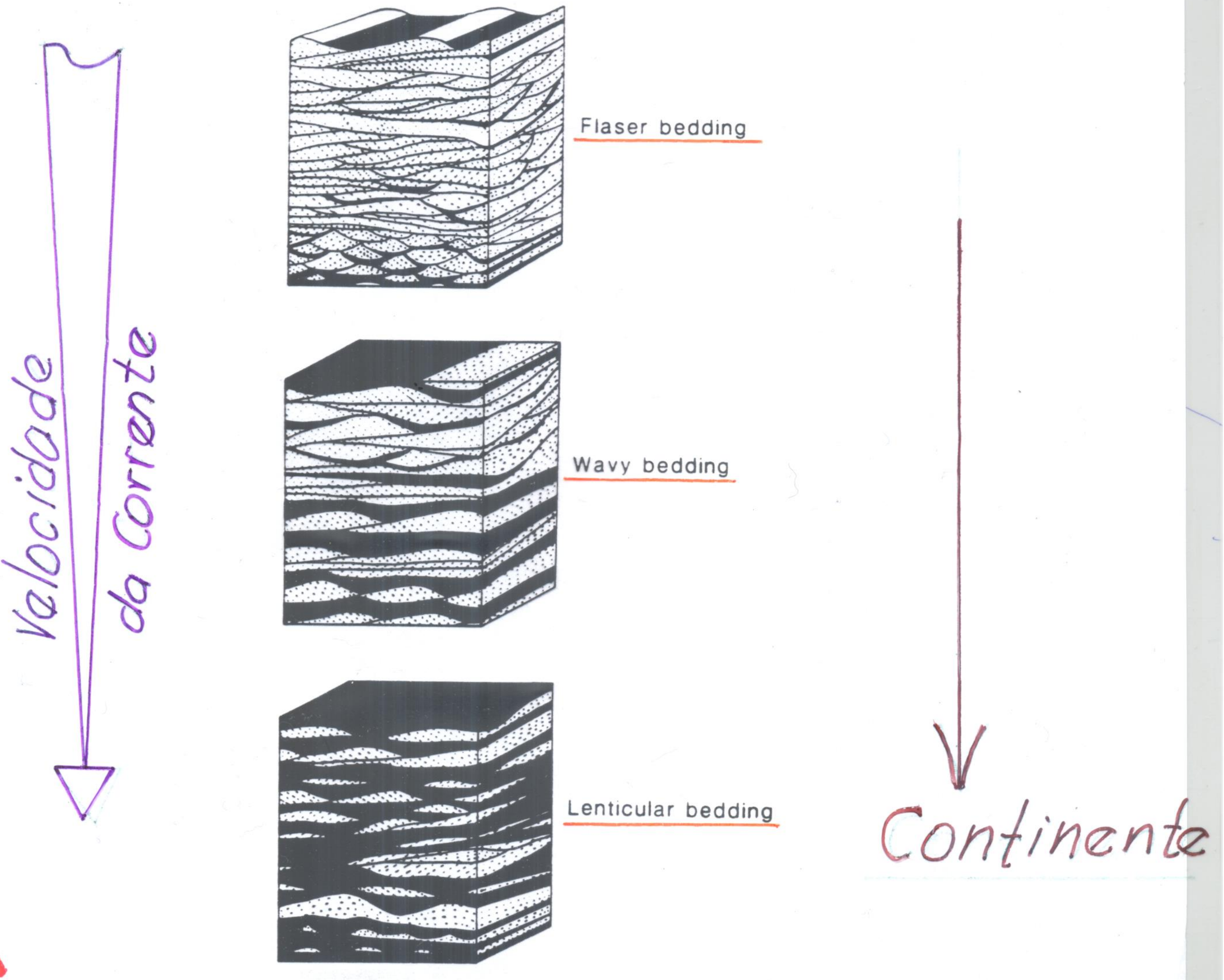

Figure 3-15. Three block diagrams showing three-dimensional organization of (from top down) flaser bedding, wavy bedding, and lenticular bedding (redrawn after Reineck and Wunderlich, 1968a).

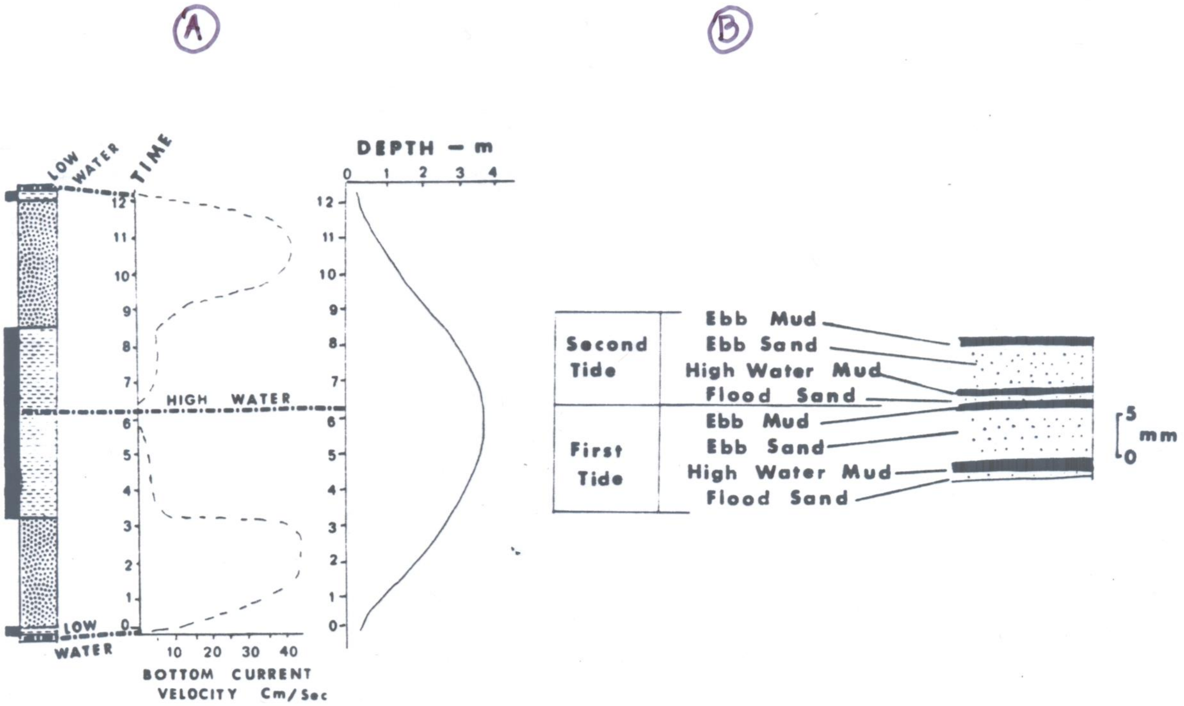

Figure 3-14. Development of tidal bedding according to Reineck and Wunderlich (1968b). Marker beds emplaced at high and low tide bracketed bed-load deposition of sand (stippled) and suspension deposition of mud (dashed; also black bar). Velocity changes during tidal cycle controlled type of deposition. During two tidal cycles, four couples of sand and mud comprising a tidal bed are deposited (on right) (reprinted by permission of International Human Resources Development Corporation from *Clastic Tidal Facies* by George deVries Klein).

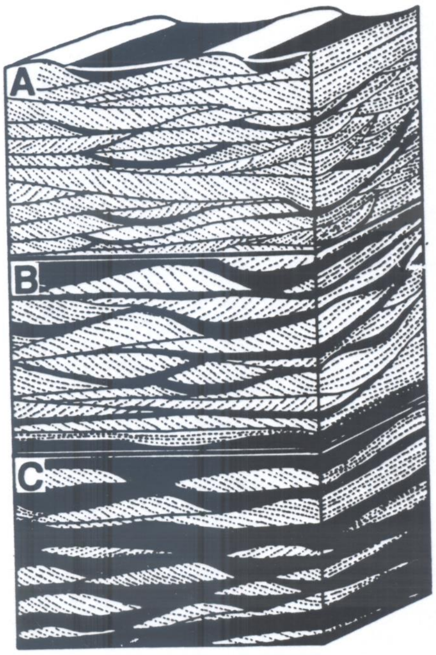

Figure 10 Flaser bedding (A), wavy ("tidal") bedding (B), and lenticular bedding (C). The progression from A to C results from a net decrease in current speed and increased deposition and preservation of mud drapes. After Reineck and Singh (1980).

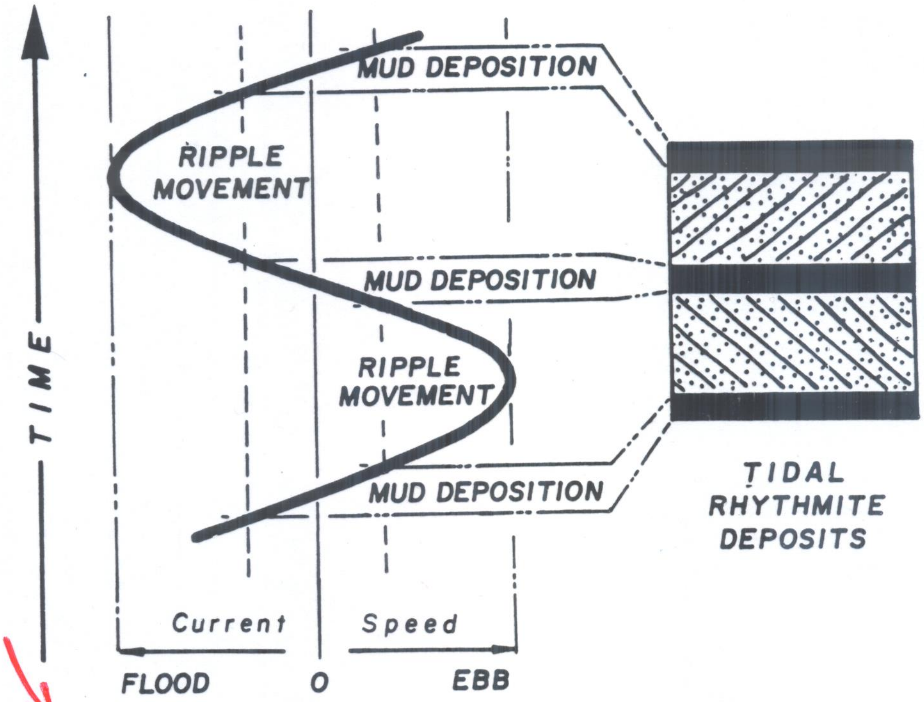

Figure 11 Variation in tidal current speed over a single tidal cycle and the origin of tidal rhythmites. The tidal currents in this example are of equal speed in both directions. As the difference in speed between the dominant and subordinate currents increases, the thickness of the two sand layers will become more unequal. After Dalrymple *et al.* (1991).

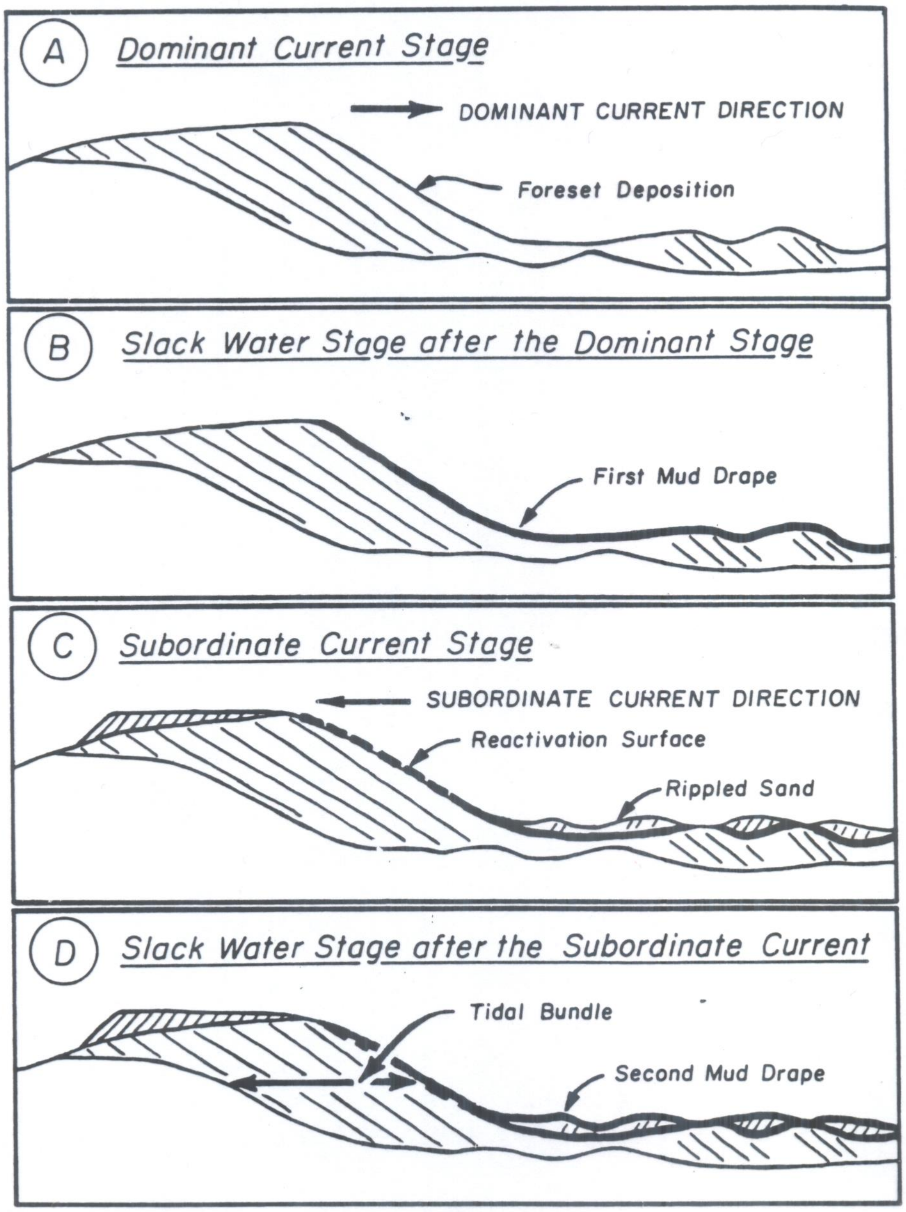

Figure 7 Structures produced in a dune during a tidal cycle. In this example, the currents exhibit a pronounced asymmetry and suspended sediment concentrations are moderately high. A tidal bundle is the deposit of the dominant portion of the tidal cycle. After Visser (1980).

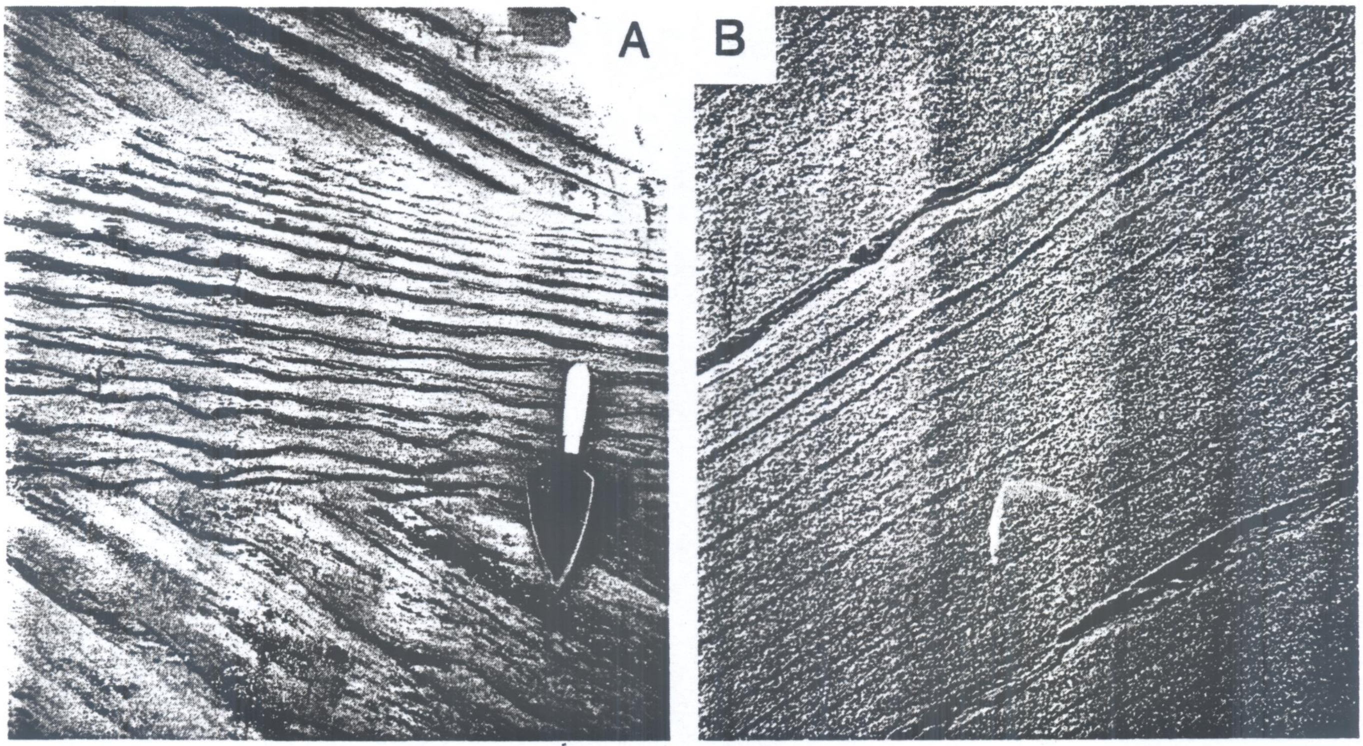

Figure 8 Bundled cross bedding in subtidal sands of the Oosterschelde estuary, the Netherlands. A) Outcrop photo showing repetitive mud drapes in the foresets and bottomsets of two large-scale cross beds. The dark flecks are either organic debris or mud pebbles. Trowel 24 cm long. B) Close-up of foresets showing a complete tidal bundle bounded by mud couplets that enclose subordinate-current ripples. The tidal bundle is approximately 20 cm thick.