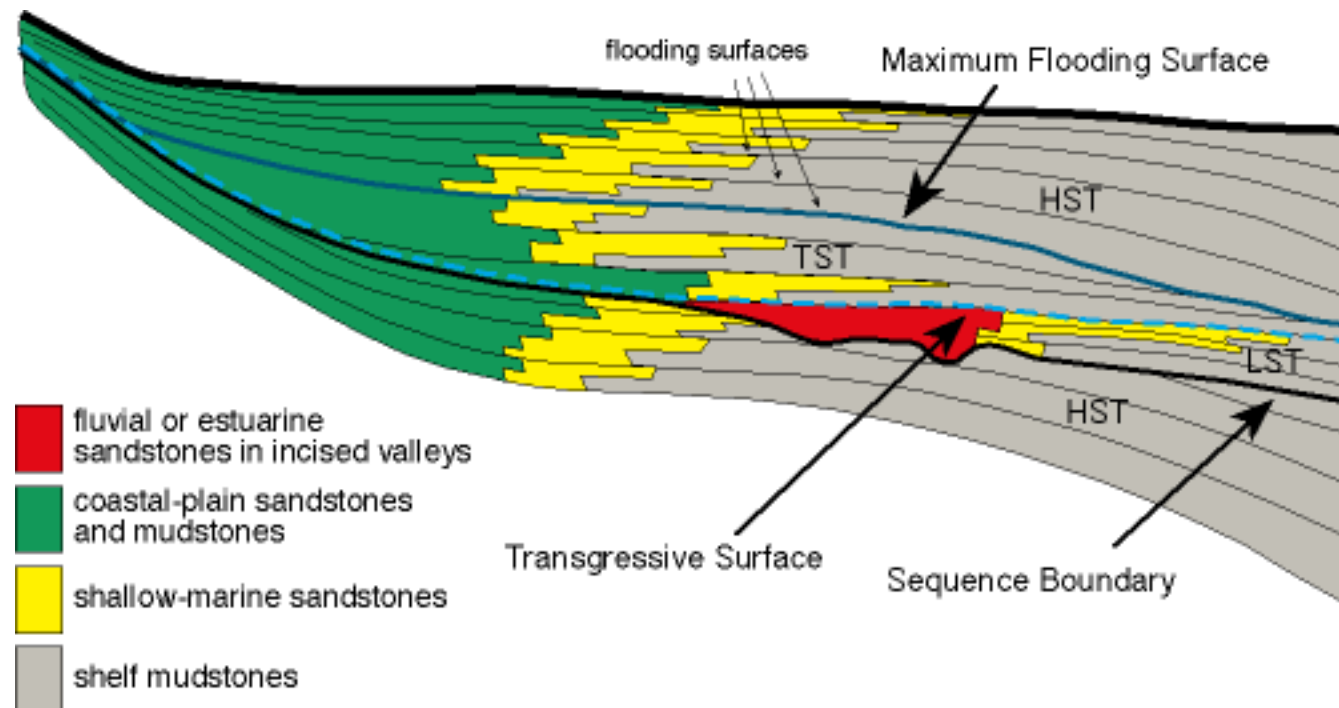
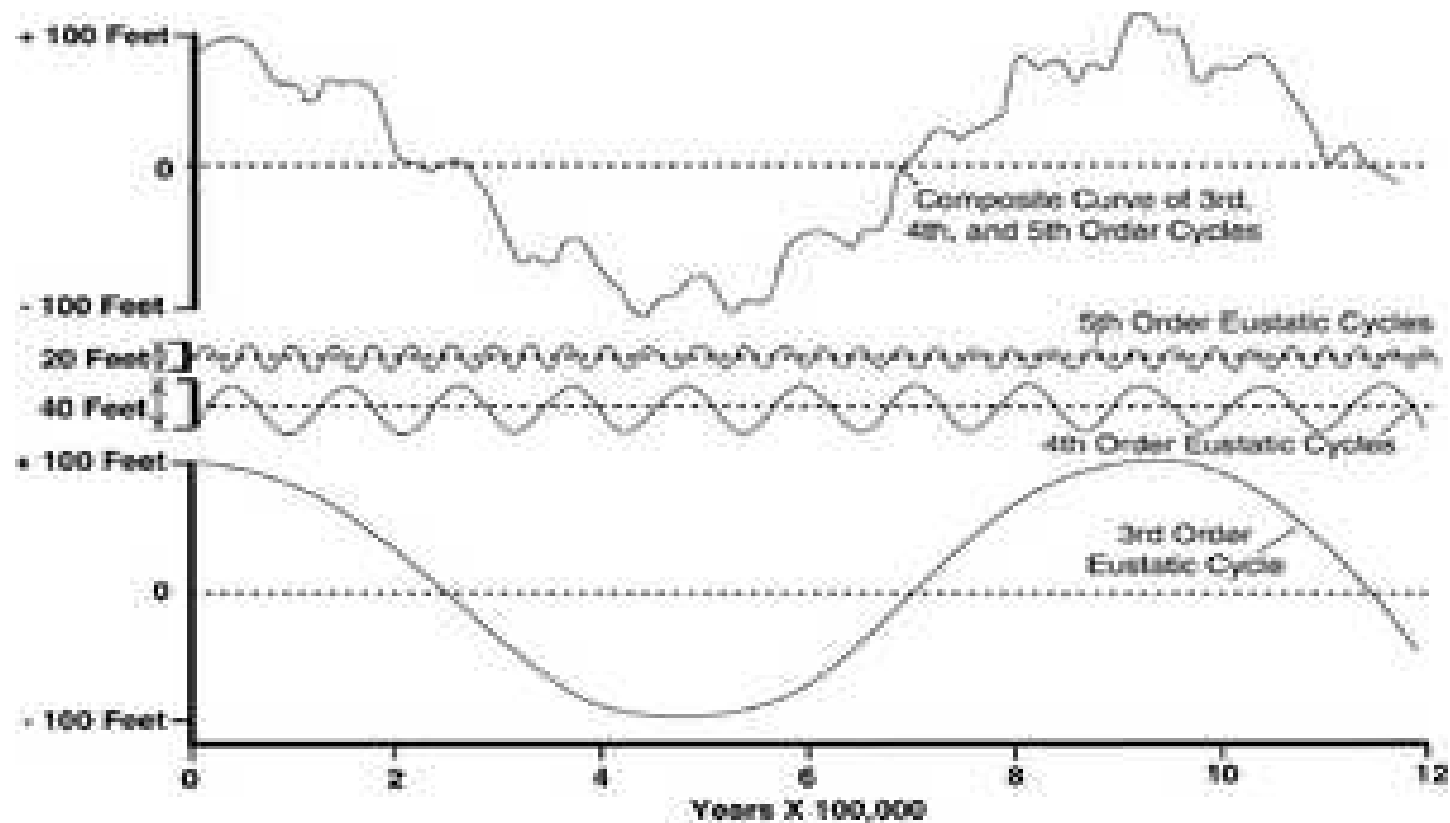
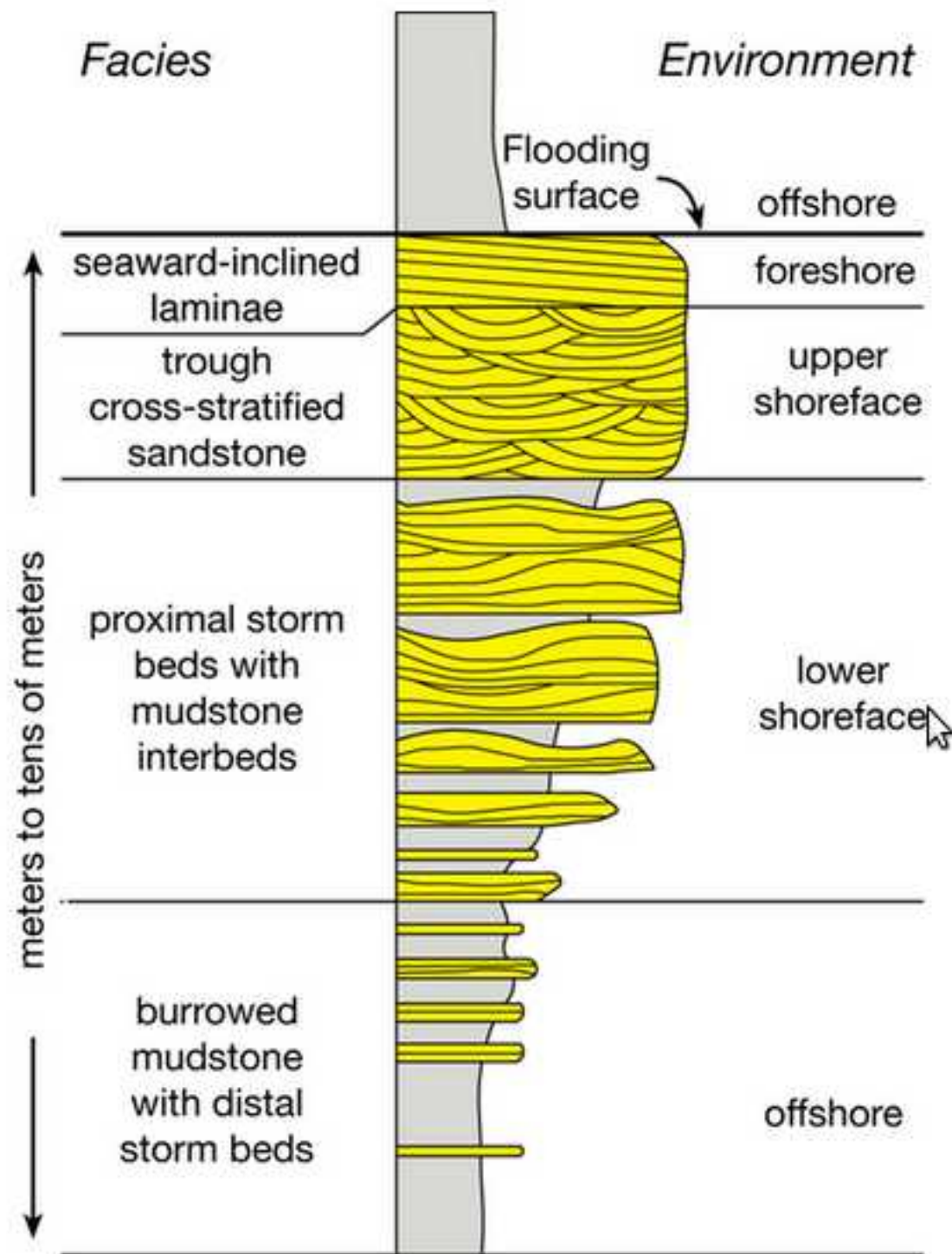








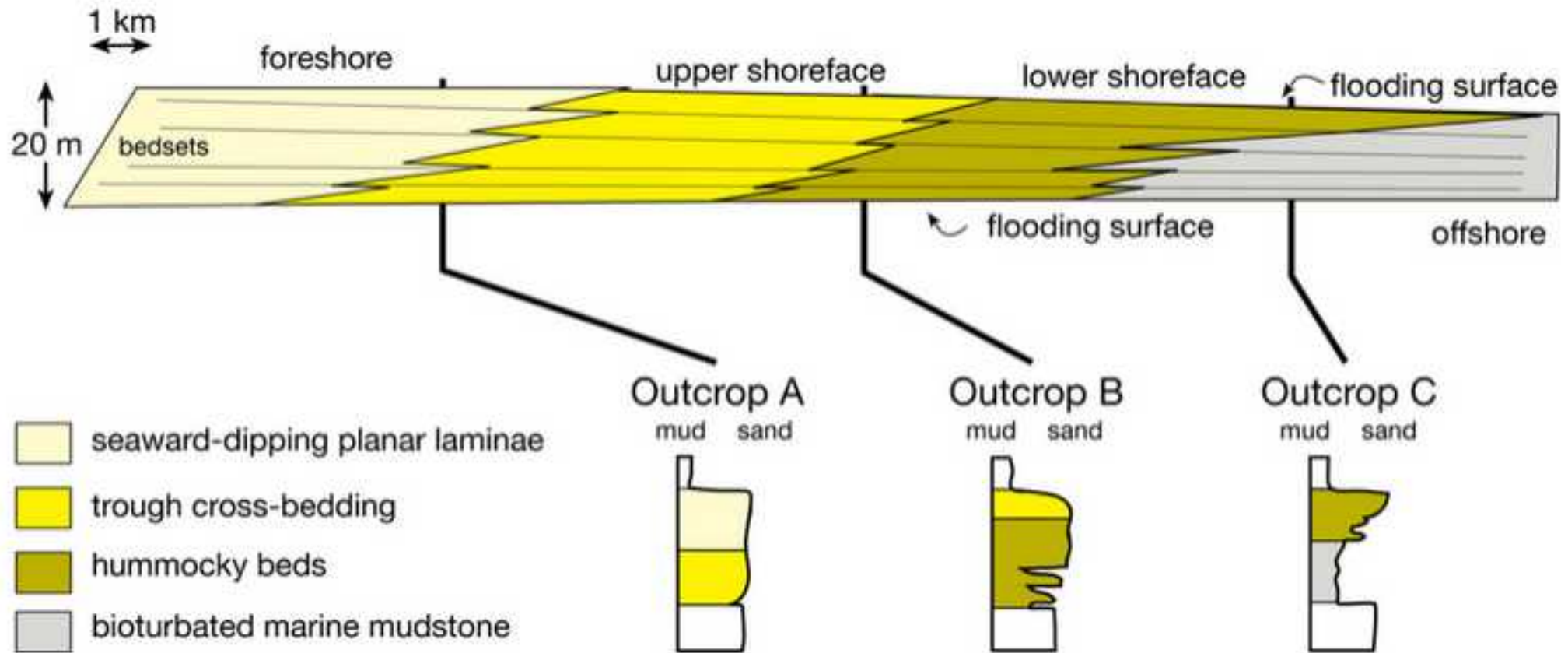
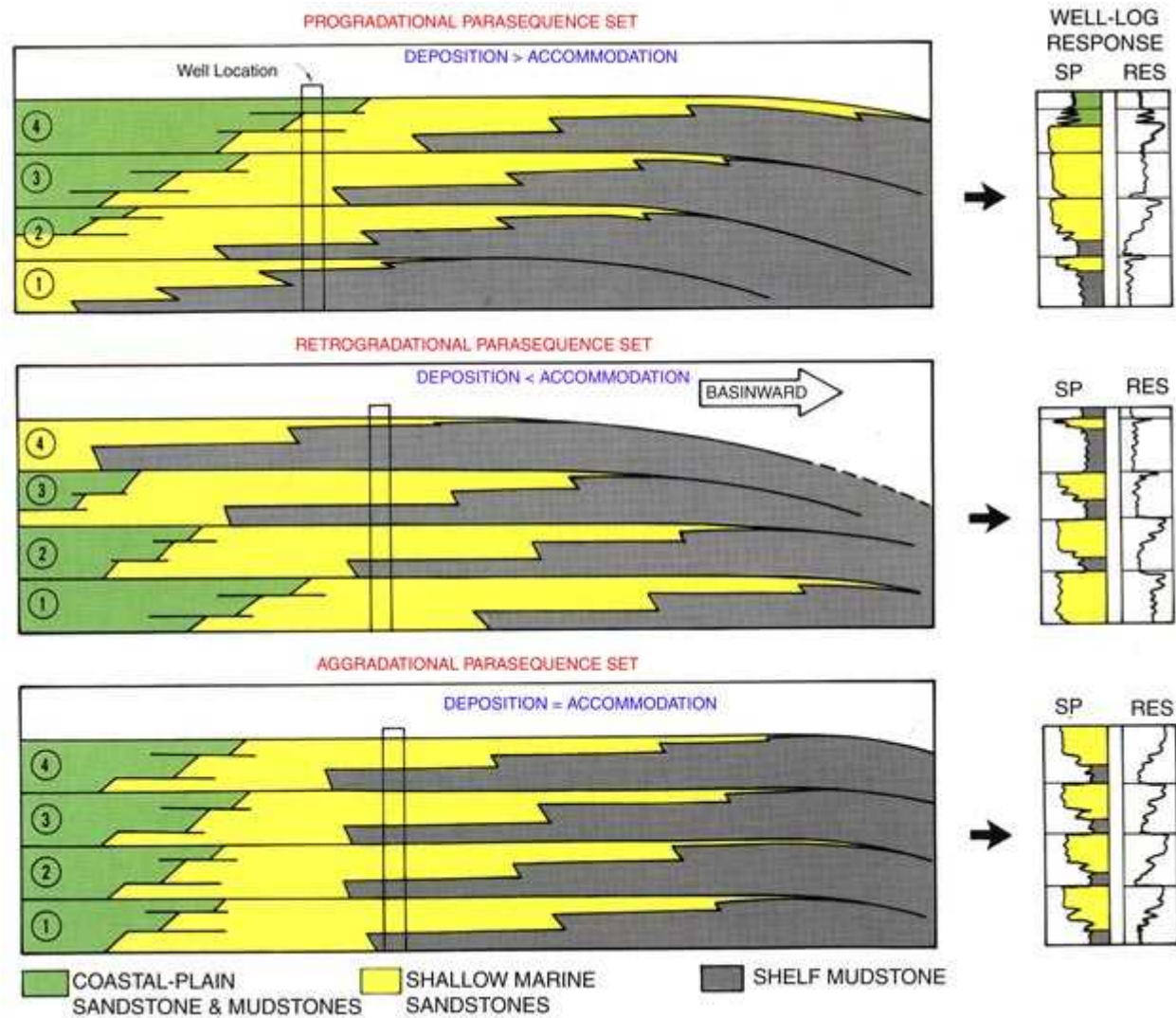
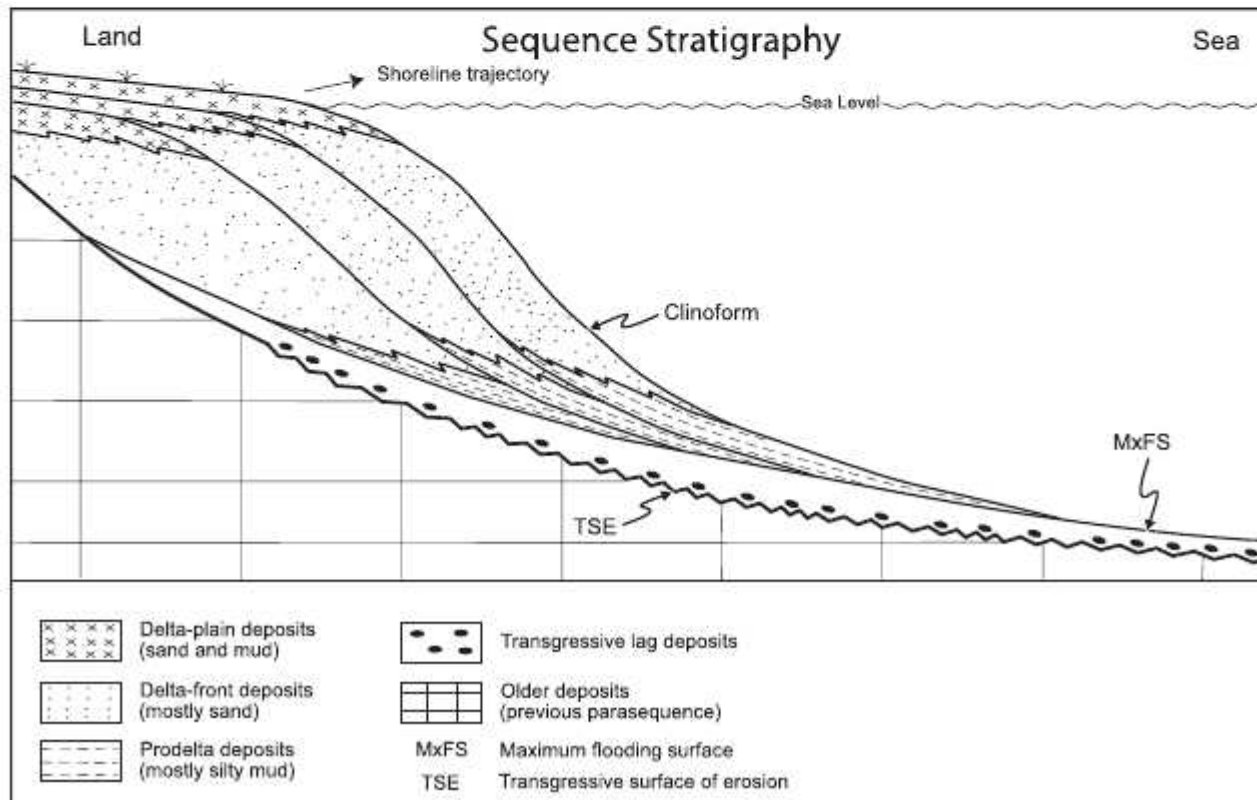
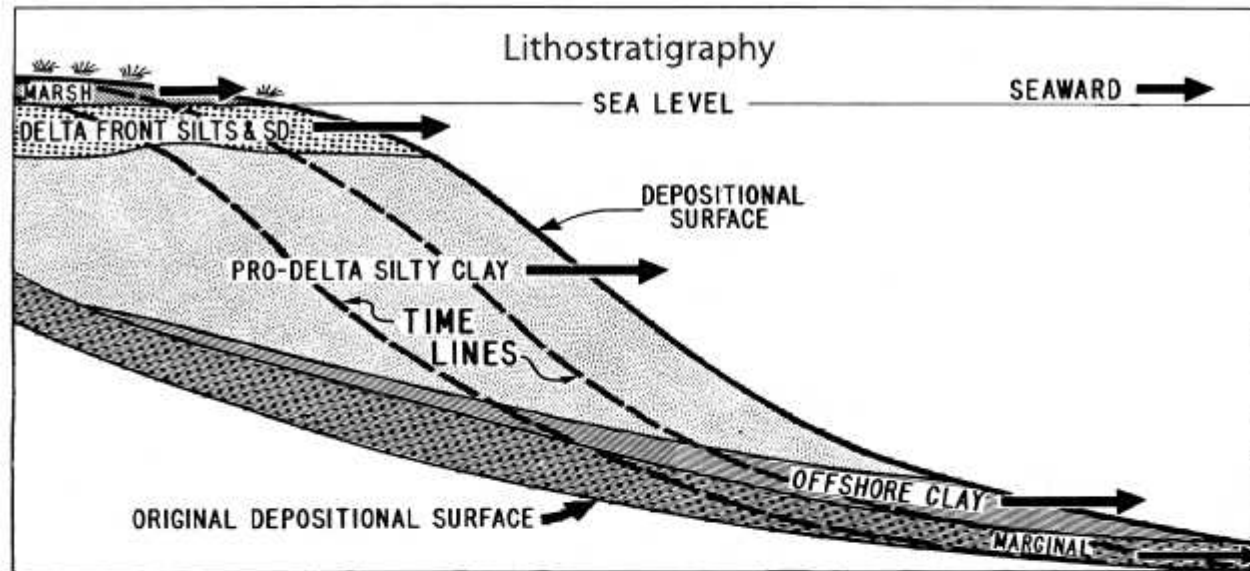


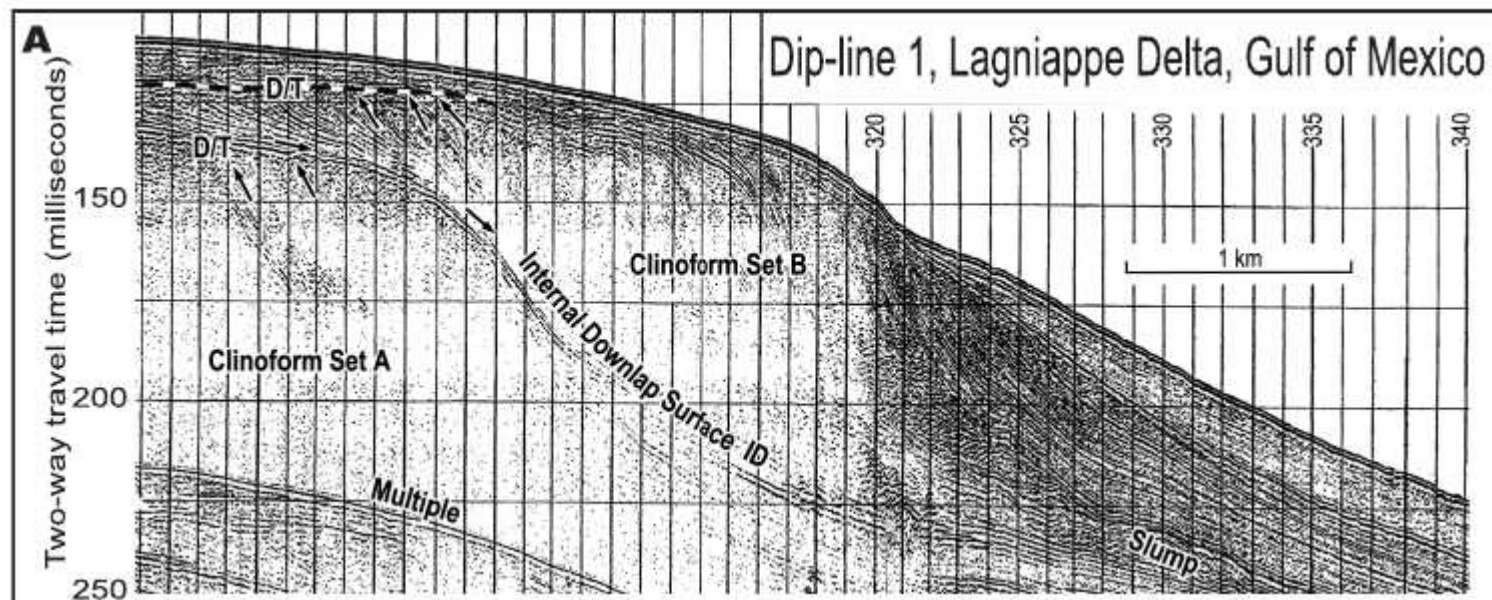
figure adapted from Van Wagoner et al. (1990)





Early example of a delta clinoform, showing topset, foreset, and bottomset strata (Scruton, 1960). A) Lithostratigraphic representation shows facies boundaries as undulating but apparently sharp. Arrows indicate direction of progradation. Most modern delta studies still show facies contacts in this manner. B) Correct representation of facies boundaries versus timelines. Bed boundaries are more likely to follow the time lines (From Gani and Bhattacharya, 2005).







3 km



Image © 2006 TerraMetrics

© 2005 Google™

Pointer 29°11'41.93" N 89°01'24.95" W

Streaming ||||| 100%

Eye alt 36.99 km

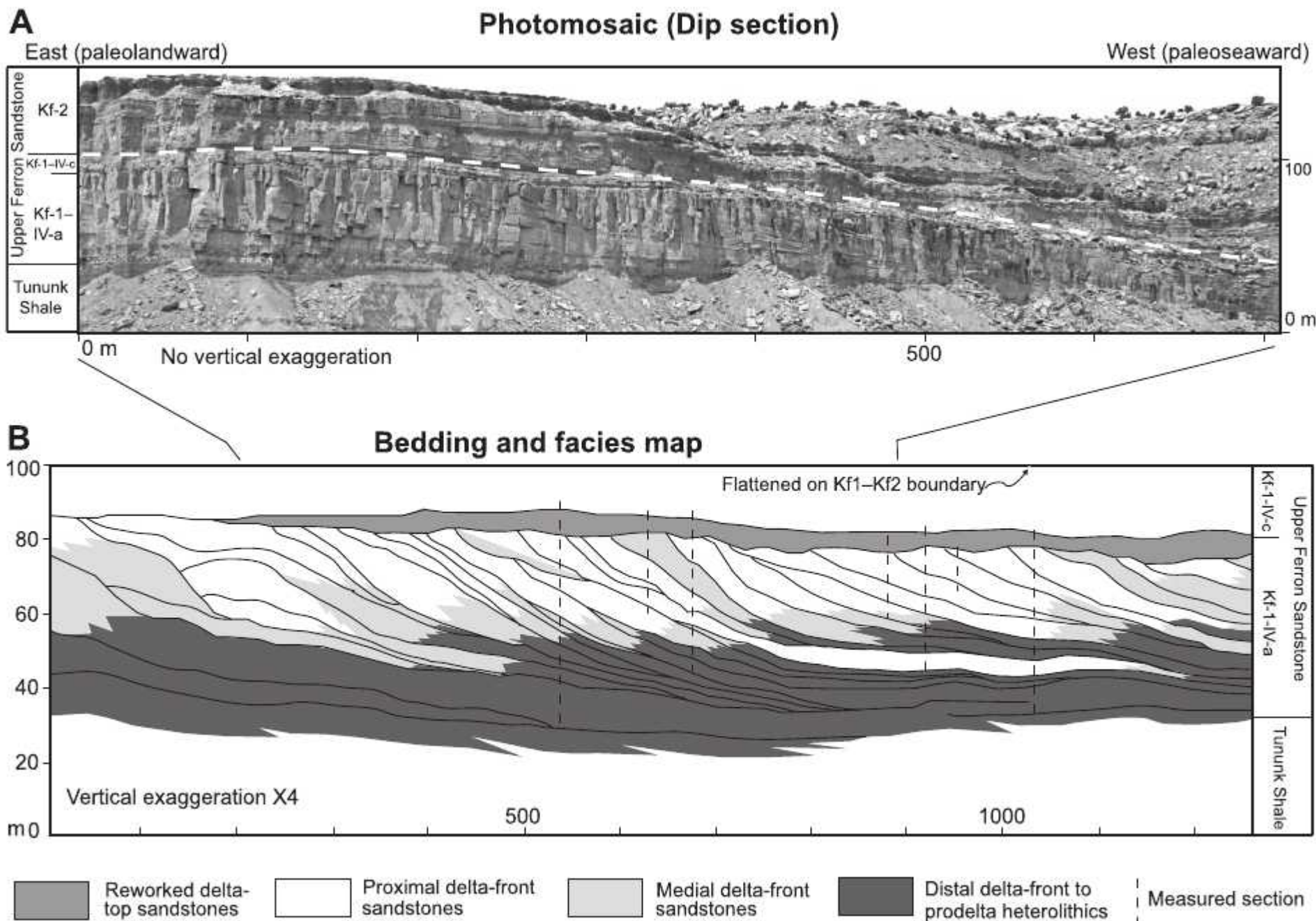


FIG. 40.—Inclined bedding (clinoforms) and facies in a river-dominated delta front of the Cretaceous Ferron sandstone member, Utah, U.S.A. **A**) Photomosaic of a cliff face. **B**) Bedding and facies geometry of the same cliff face (along depositional dip), Ivie Creek amphitheater, Emery County, Utah. The diagram shows prominent seaward-dipping clinoforms. From Gani and Bhattacharya (2005), modified after Anderson, P.B. et al. (2004) and Mattson (1997).

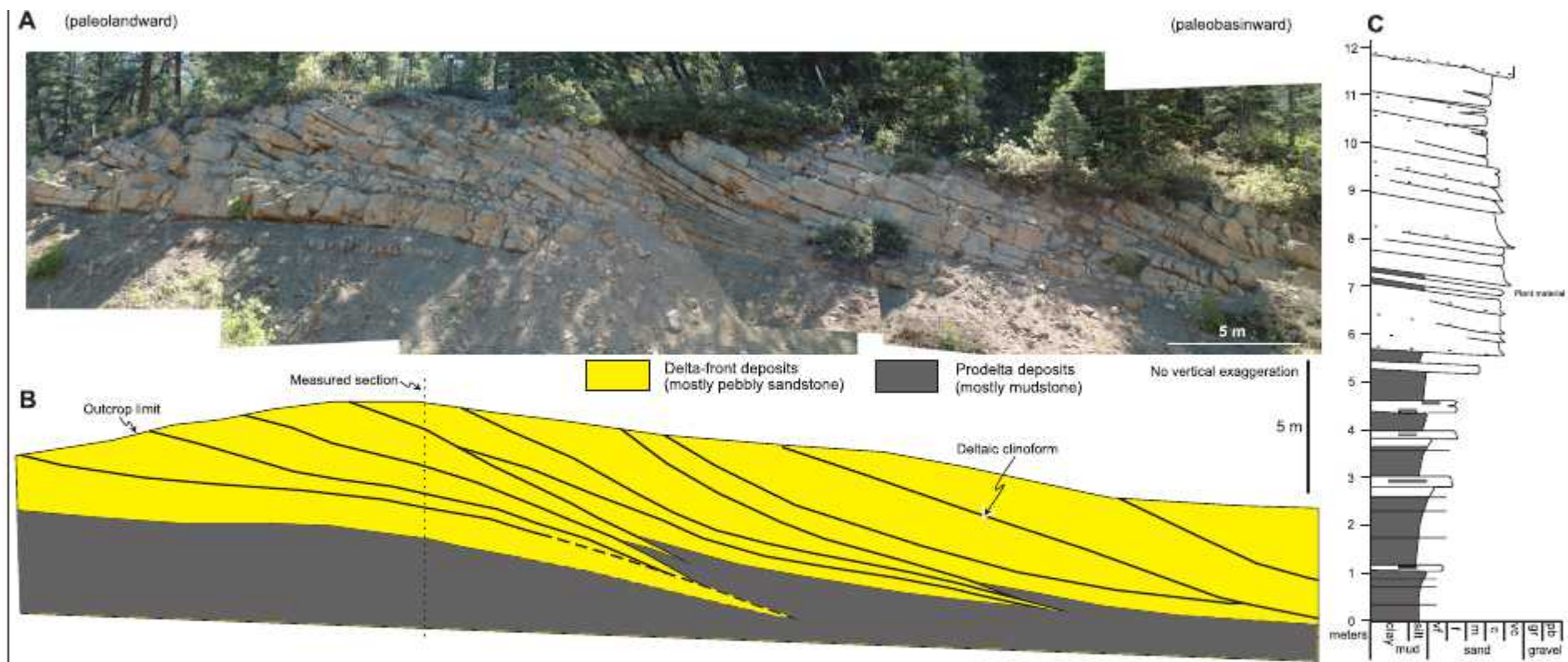
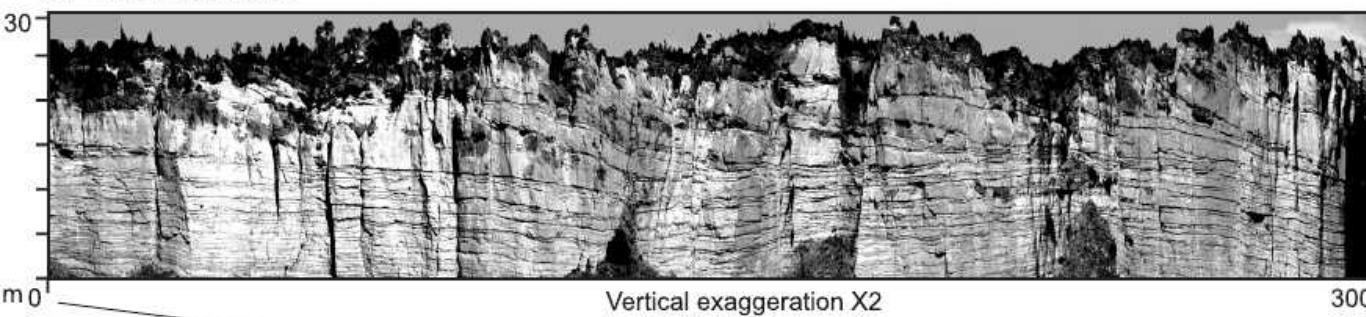
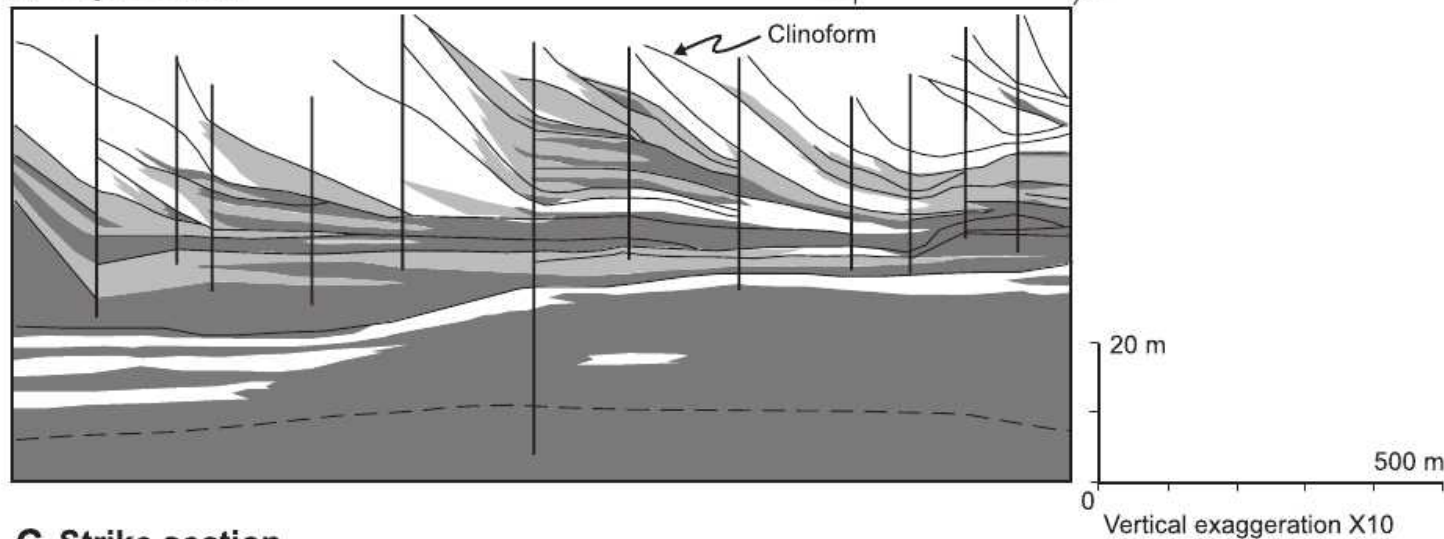


FIG. 41.—Details of facies interfingering at the base of a small-scale outcrop example of a gravelly, Pennsylvanian “Gilbert” delta, Taos Trough, New Mexico, U.S.A. **A)** Outcrop photomosaic. **B)** Line drawings of beddings with facies interpretation. Note that clinoforms are steeply dipping (average 13°). **C)** Lithologic column of this coarse-grained delta (position of the measured section is shown in Part B). From Gani and Bhattacharya (2005).

A Photomosaic



B Dip section



C Strike section

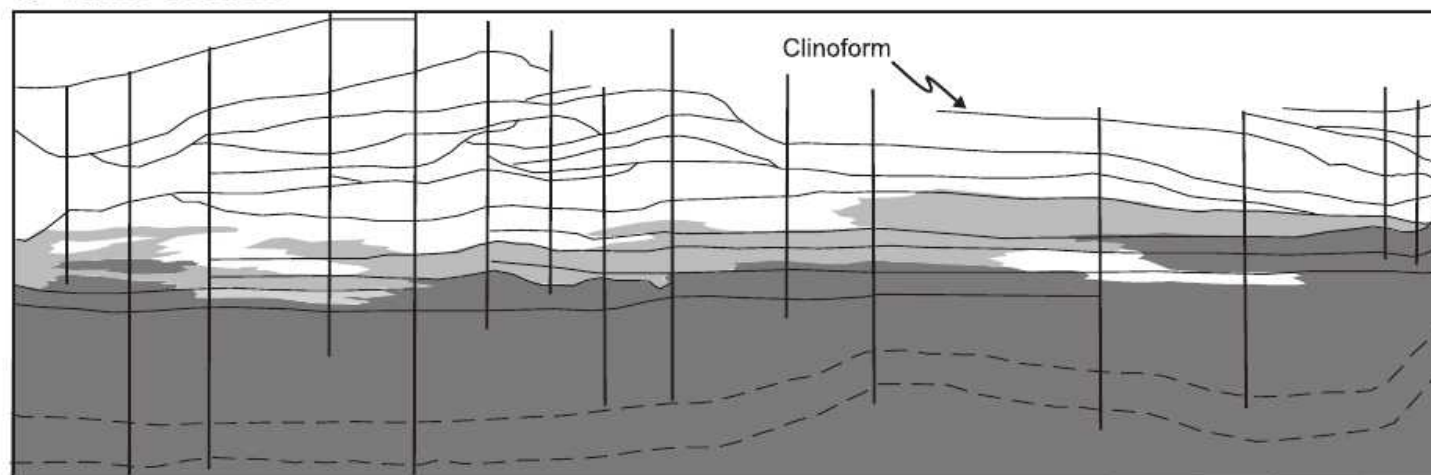


FIG. 42.—Outcrop example of complex internal architecture in the Cenomanian (Upper Cretaceous) tide-influenced river delta of the Frewens Allomember, Frontier Formation, central Wyoming, U.S.A. Dip view (AB) of the prograding delta shows the seaward-dipping clinoforms, whereas in strike view (BC) these clinoforms show bidirectional downlap, forming a classical lens-shaped geometry. In both cases, muddy bottomset facies interfinger with the sandy foreset facies, forming a shazam-type facies boundary. Note that clinoform dip varies from 5° to 15° . Detailed facies shots and measured sections are shown in Figures 34 and 35 (modified from Willis et al., 1999).

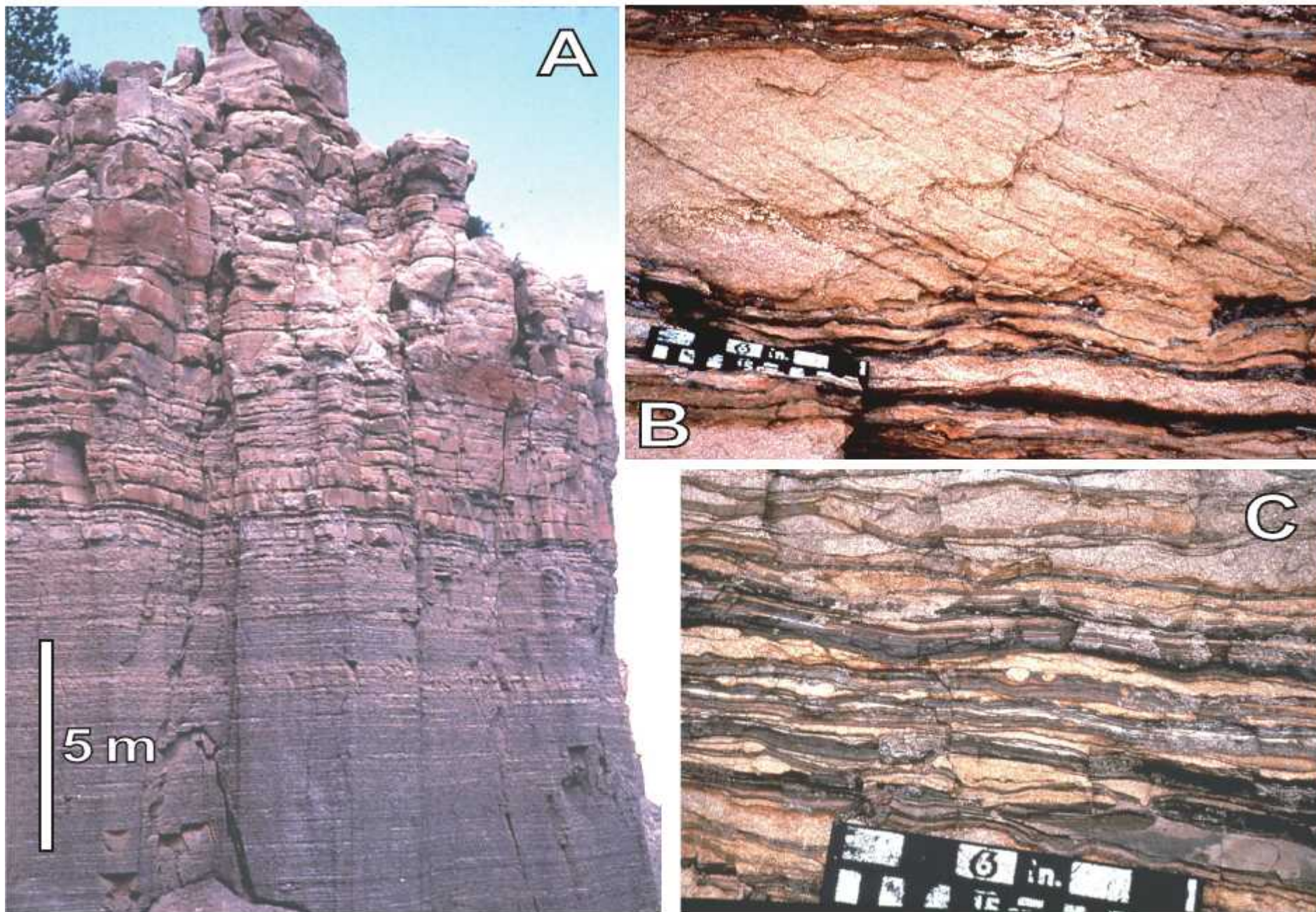


FIG. 35.—Tide-dominated delta front of the Cretaceous Frewens sandstone, Wyoming, U.S.A. A) Upward-coarsening facies succession (see measured section in Figure 34). B) Double mud drapes indicative of tidal modulation. C) Heterolithic, lightly burrowed subtidal prodelta facies at the base of the succession. Bedding architecture is shown in Figure 42.



Nova Orleans

Delta Abandonado

Delta Abandonado

10 km

Delta Ativo

© 2006 Europa Technologies
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© 2005 Google

Pointer 29°28'39.86" N 89°42'08.10" W

Streaming ||||| 100%

Eye alt 178.32 km

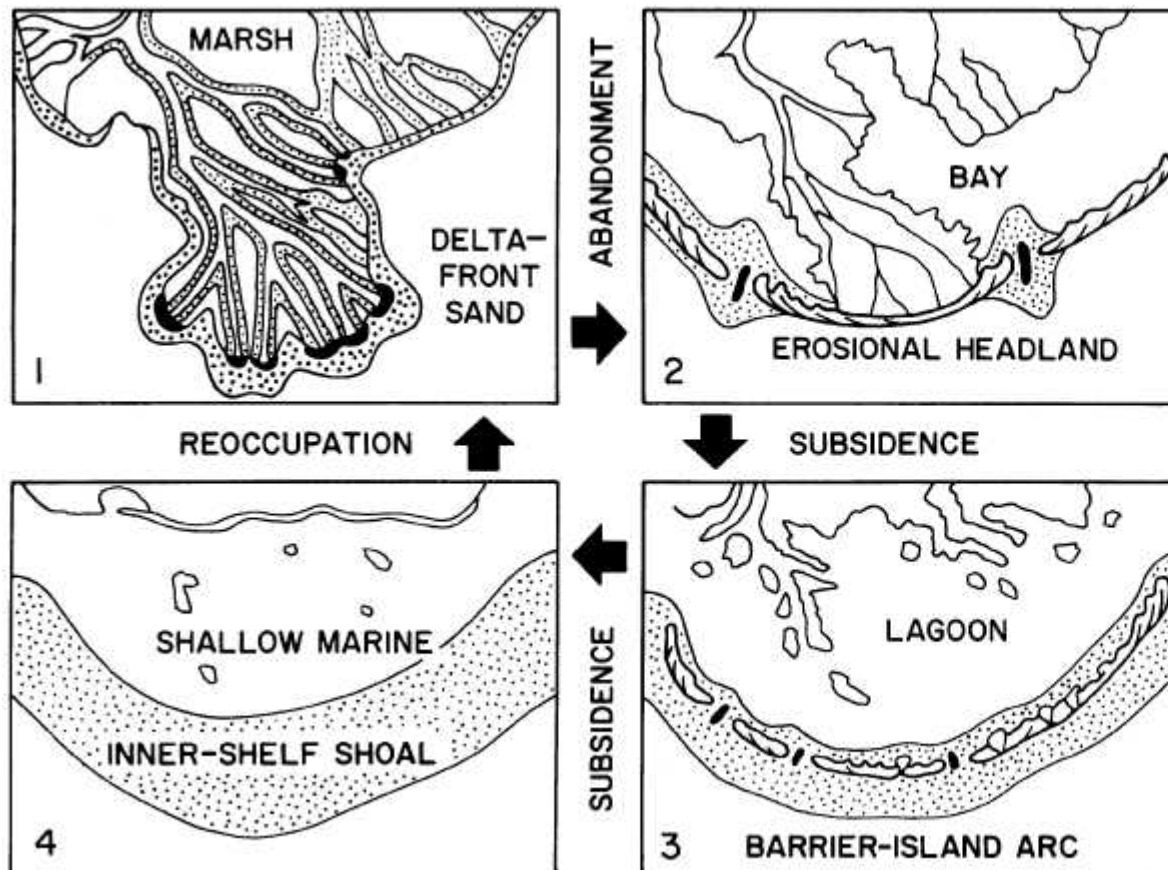


FIG. 7.—Evolution of Mississippi delta lobes from progradation to abandonment (from Boyd et al., 1989). Delta goes through an initial cycle of progradation, during which it shows a river-dominated character. As it is abandoned, it forms into a barrier-lagoon system. The barrier is ultimately drowned to form a relict shelf shoal.

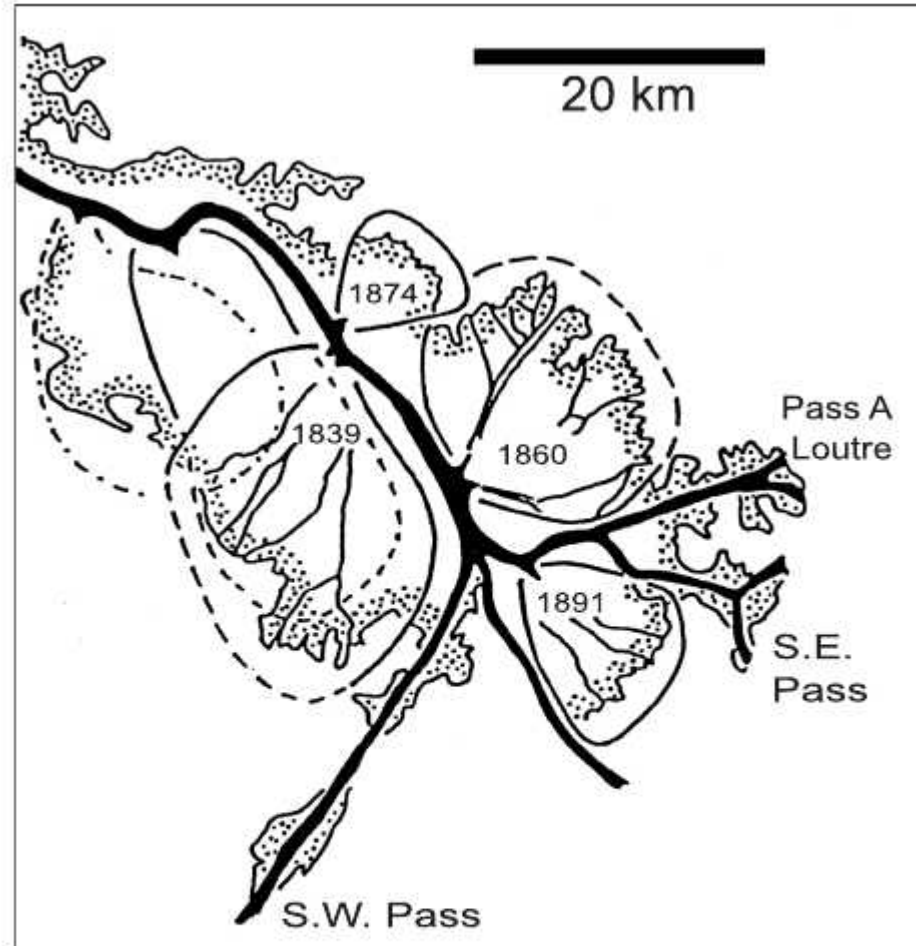
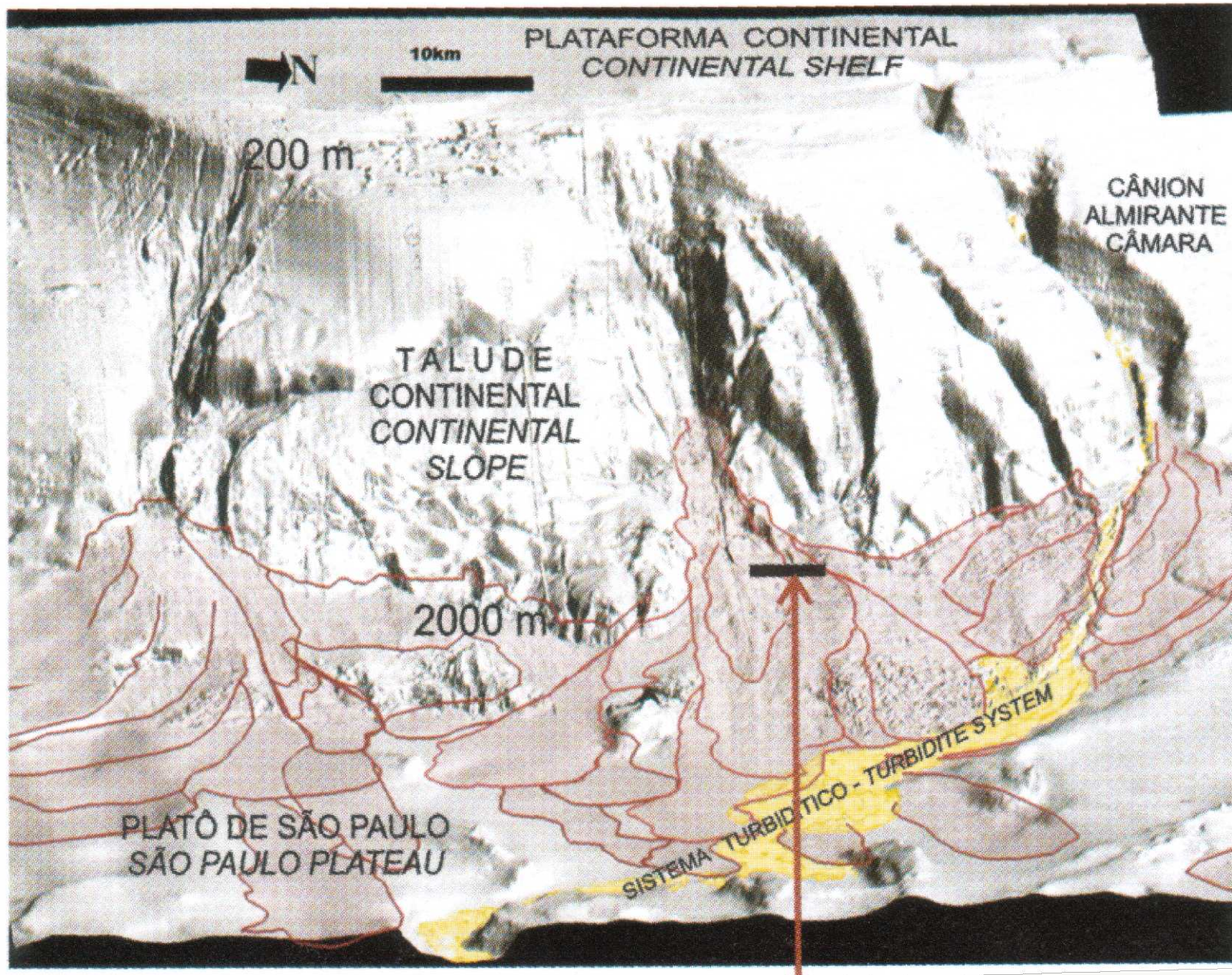
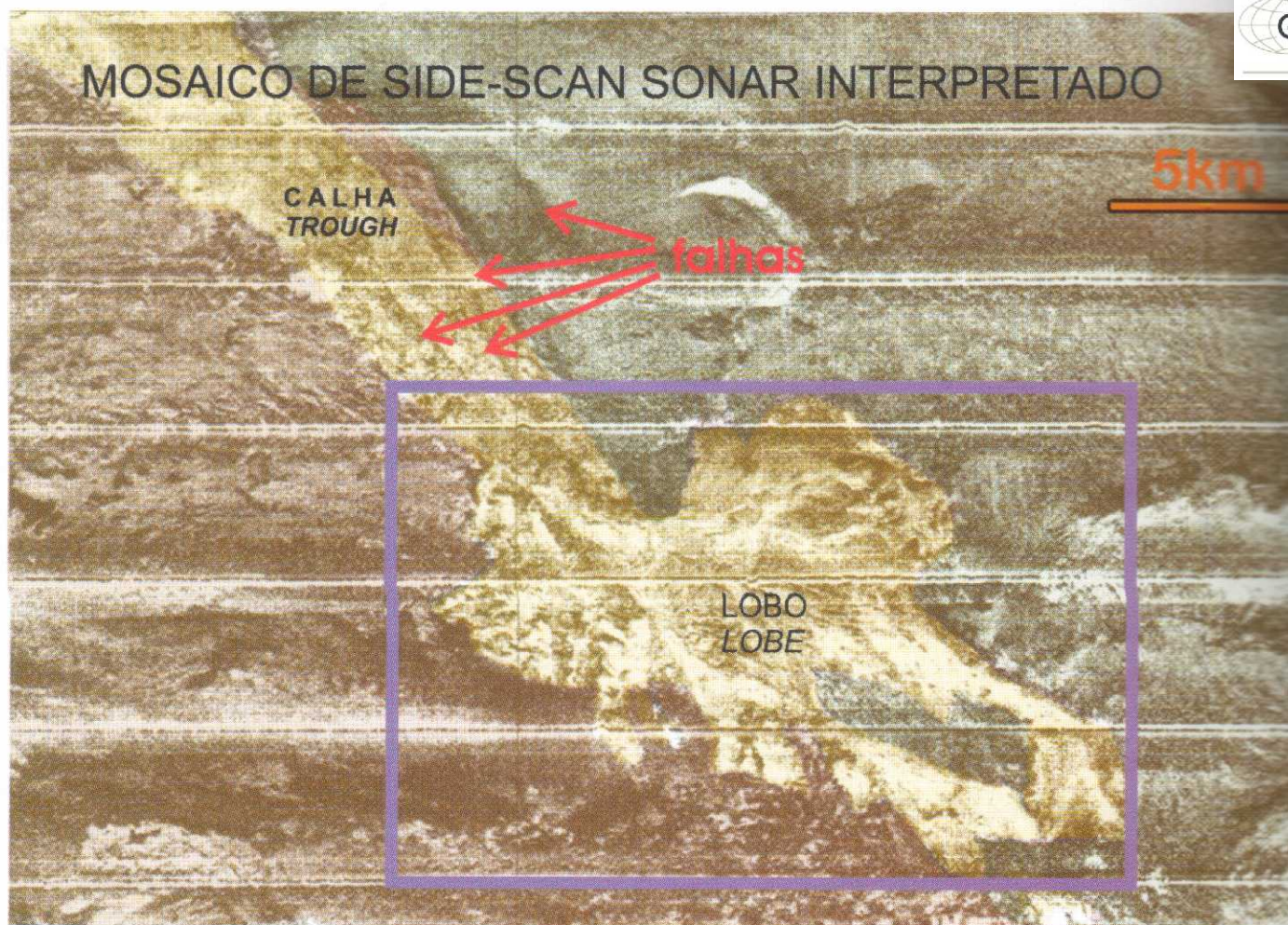


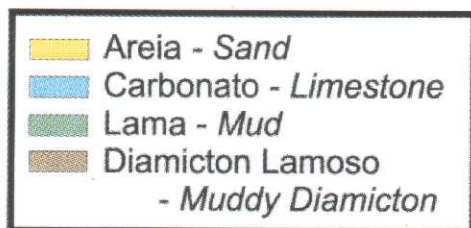
FIG. 8.—Infilling of interdistributary bays by historically dated crevasse "subdeltas" in the modern Mississippi birdfoot delta. Note the large variation in scale of deltas and distributary channels. At least three orders of branching can be discerned (from Bhattacharya and Walker, 1992; simplified from Coleman and Gagliano, 1964).

Leques submarinos





Detalhe de lobo
turbidítico



Machado
et al.
(2004)

Arquitetura de um sistema de canal e lobos

Machado
et al.
(2004)

