

praktika

Reflexní seismika – úvod

interpretace seismických řezů -
riftové pánve

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Ústav geologie a paleontologie

seismologie
refrakční seismika
reflexní seismika

refrakční seismika

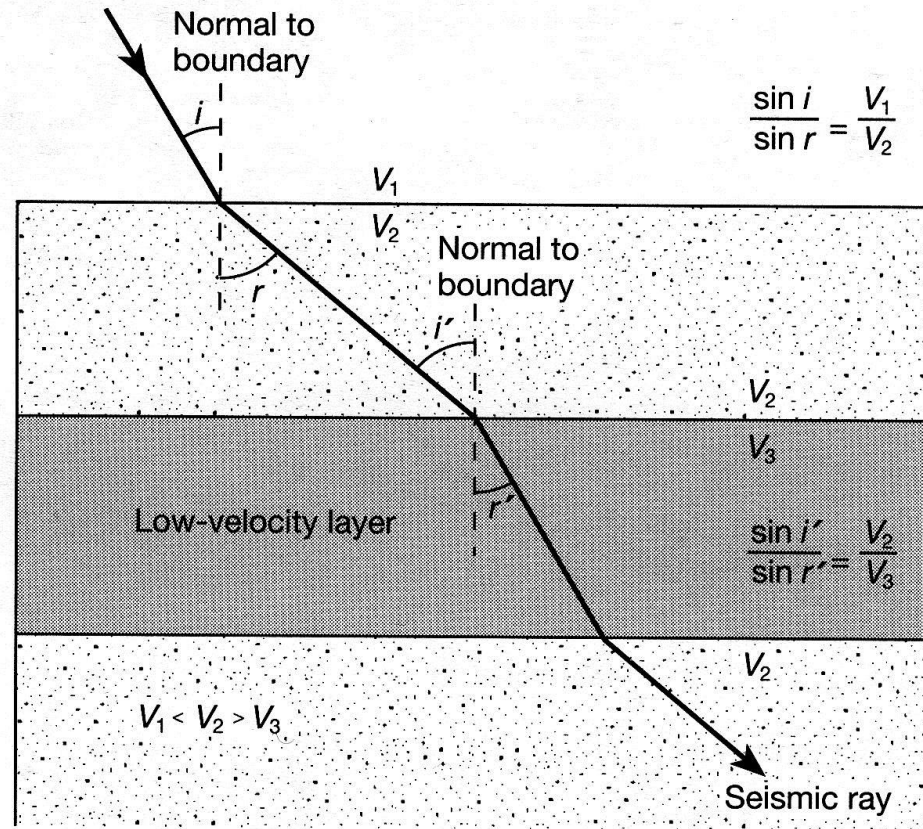


Figure 2.1.1 Refraction of seismic rays. Refraction is away from the normal to the boundary if the ray travels from a low to a high-seismic-velocity material (here V_1 to V_2 or V_3 to V_2). Refraction is toward the normal to the boundary if the ray travels from a high- to a low-seismic-velocity material (V_2 to V_3).

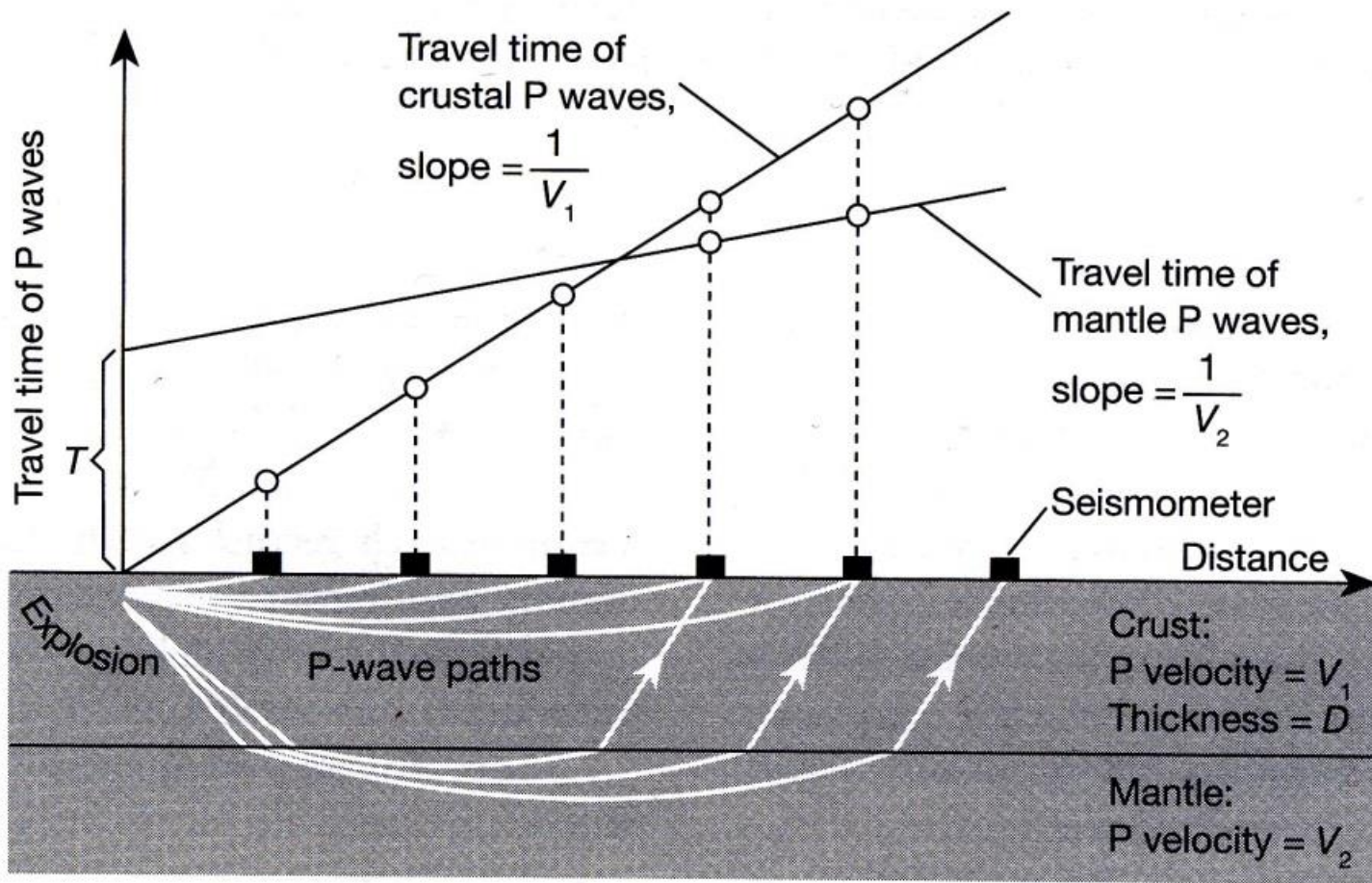


Figure 2.1.2 Illustration of the principle of seismic refraction in a two-layer structure. The diagram shows ray paths for P waves through the structure. The travel-time plot indicates the arrival times of the rays at the different detectors.

reflexní seismika - migrace řezů

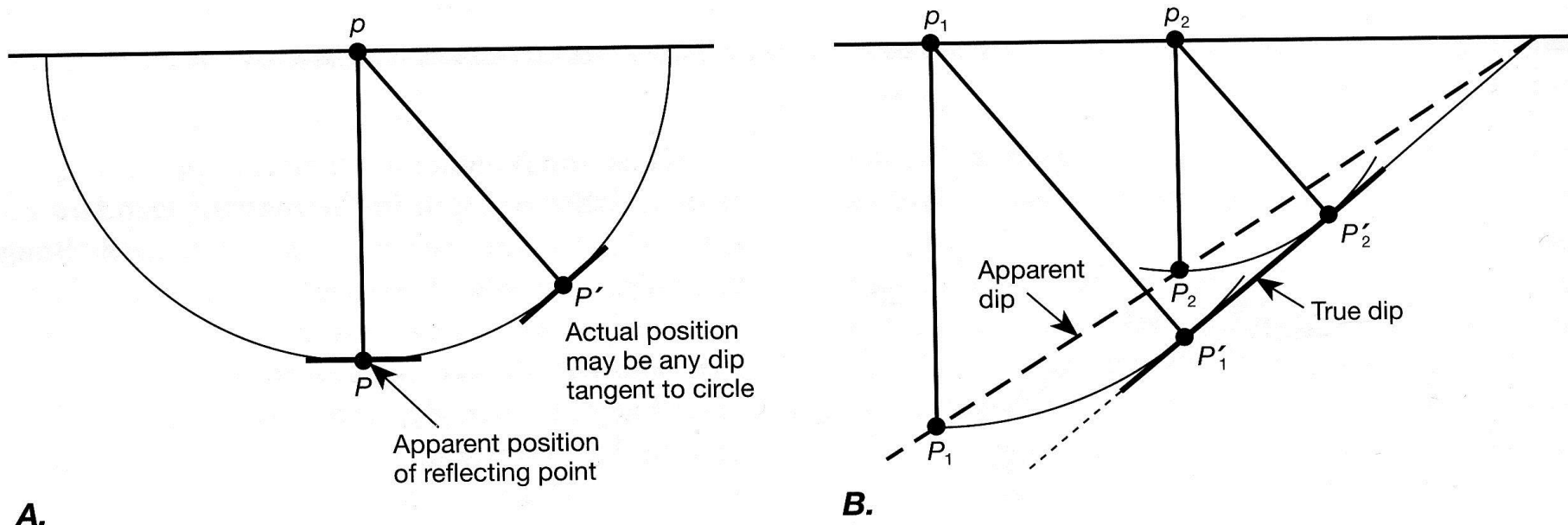
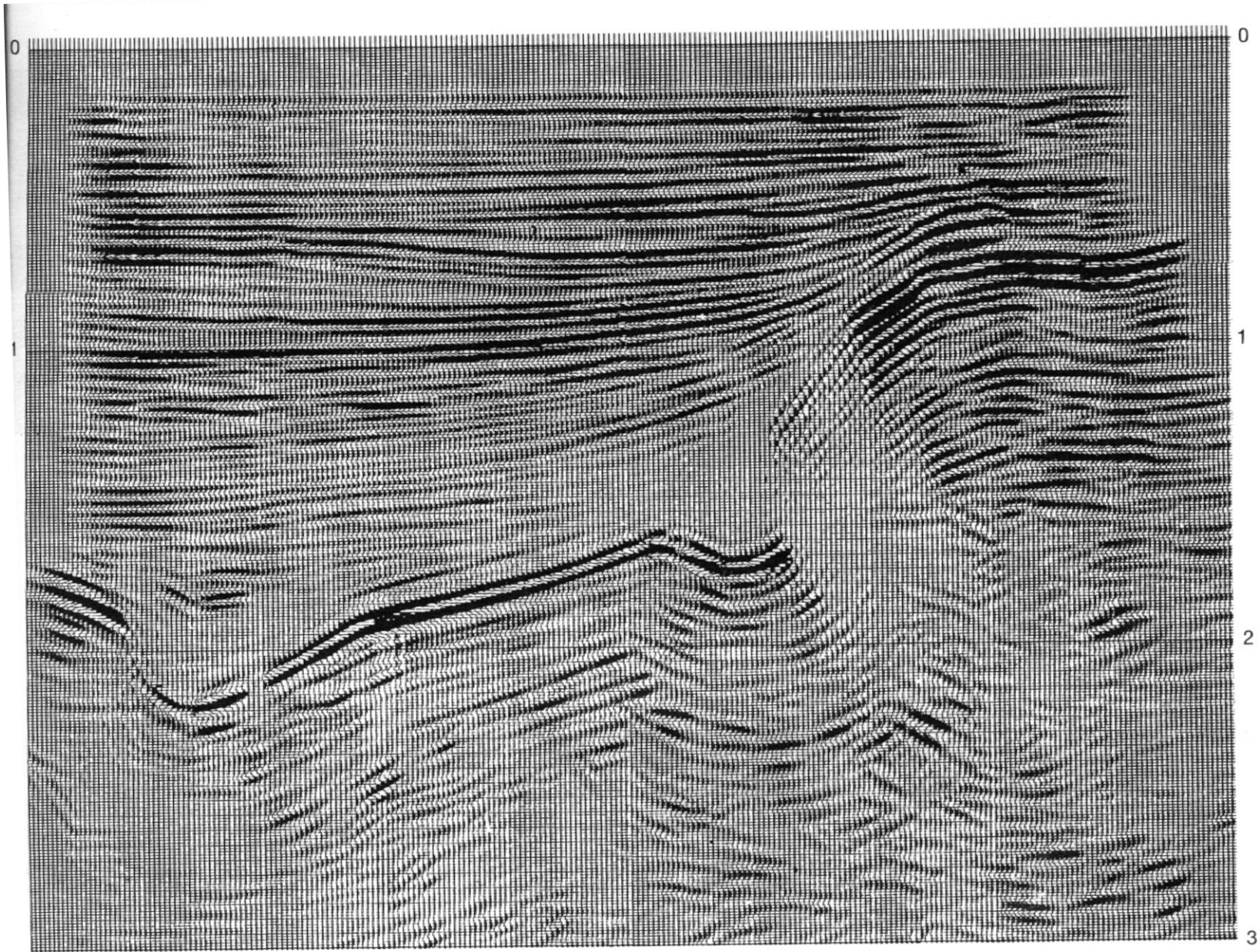
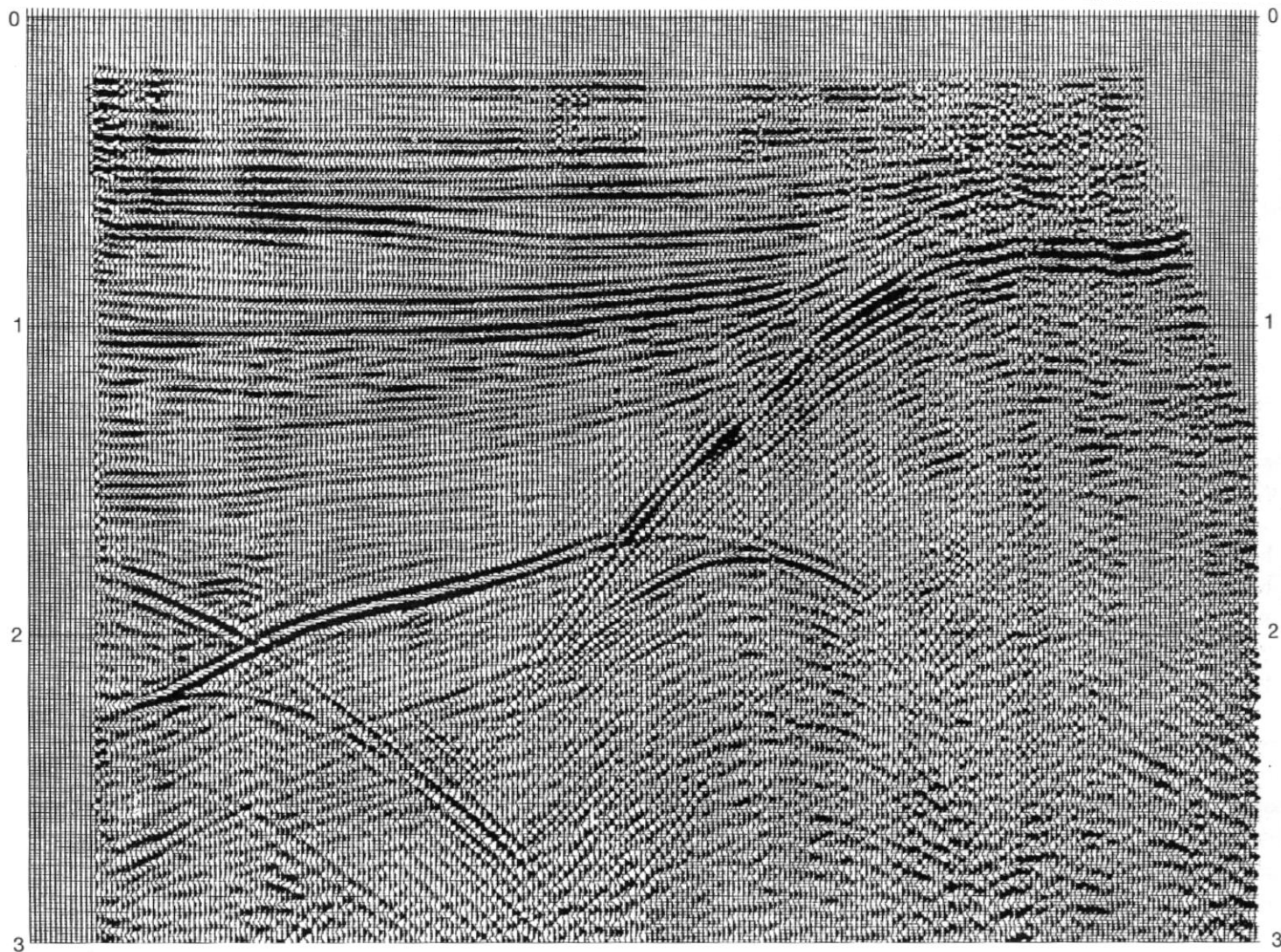


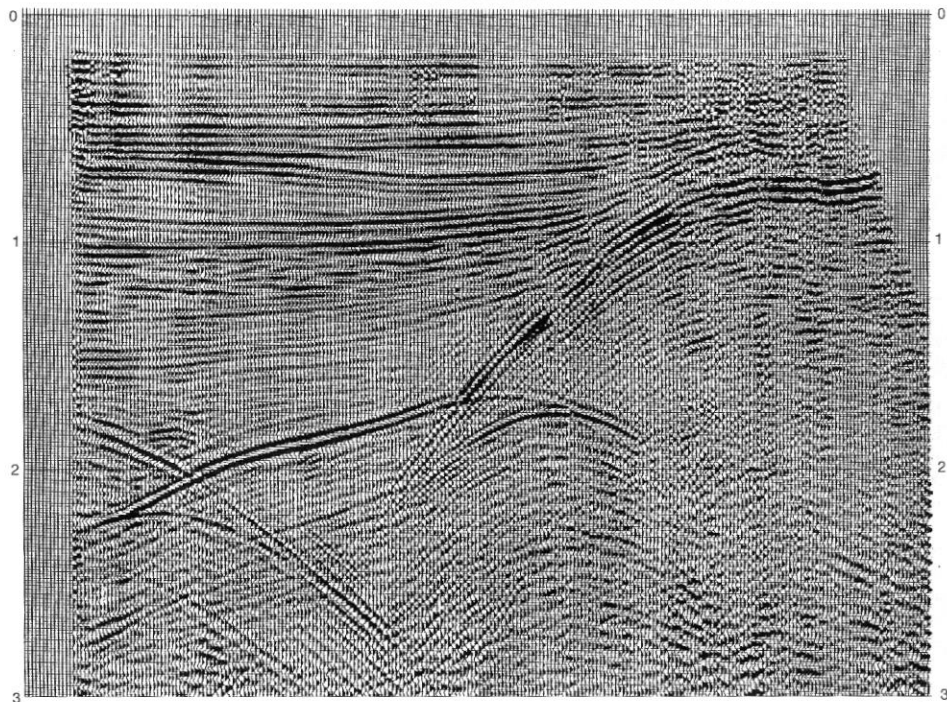
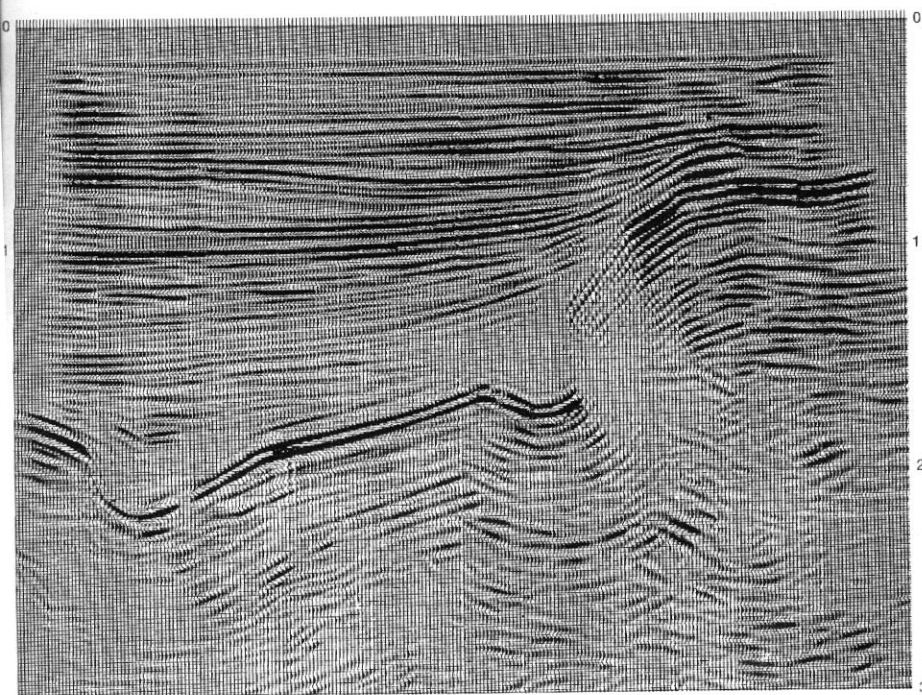
Figure 2.3.1 The migration of seismic signals corrects the seismic records to give the true location and dip of reflectors. In this example, seismic velocity is considered constant, and the shot point and receiver are both located at the same point. *A.* A reflection received at p appears on the seismic record at a two-way travel time that plots at P . In fact, the signal could come from any reflector, such as P' , that is tangent to the semicircular arc of radius pP around p . That arc is the locus of constant two-way travel time. *B.* Reflections detected at p_1 and p_2 plot vertically below each point at P_1 and P_2 , respectively, giving the reflector the apparent dip and location of the line P_1P_2 . The true location and dip of the reflector, however, must be given by the line $P_1'P_2'$, which is the common tangent to the constant two-way travel-time arcs about p_1 and p_2 , respectively. Note that P_1' is the actual location of the reflector below p_2 .





A.

Figure 2.15 Seismic reflection profiles. Individual seismic records are the wavy vertical lines plotted side by side along the distance axis. The vertical axis is the two-way travel time. Peaks in each record are shaded black to show up reflectors that can be traced from one record to the next. Good horizontal reflectors are particularly evident below about 1.7 s in the left half of the profile. A. Unmigrated seismic profile. B. (*Facing page*) Migrated seismic profile.

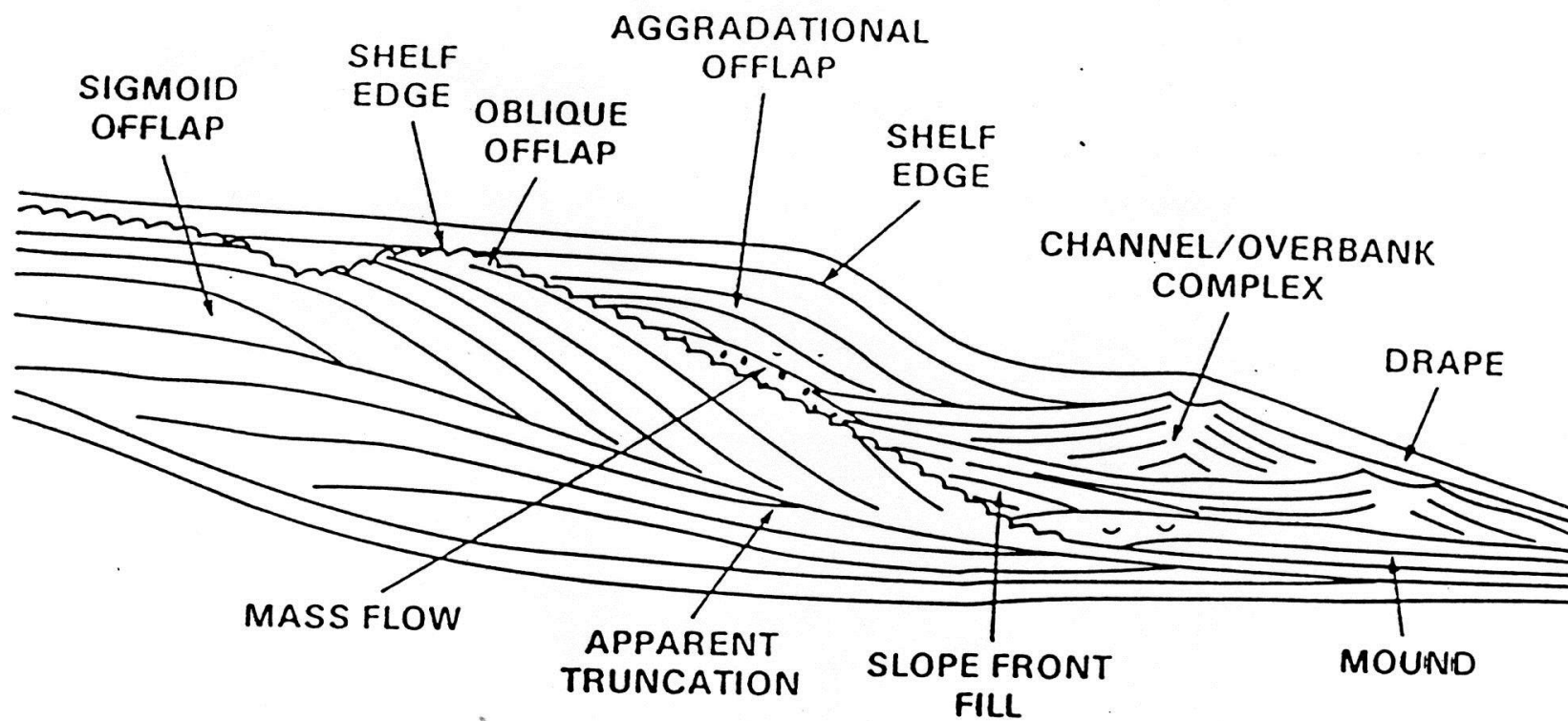


A.

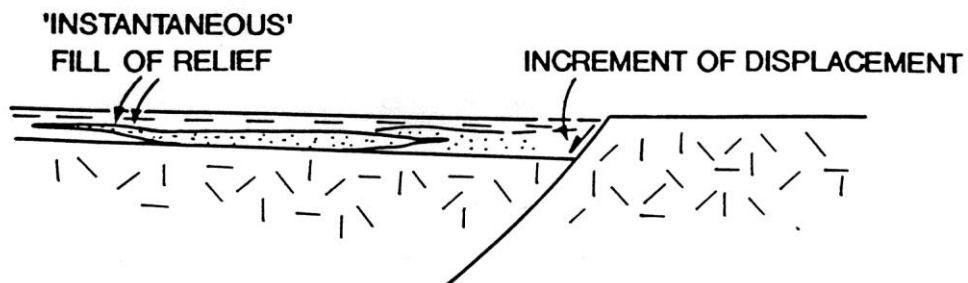
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seismická stratigrafie

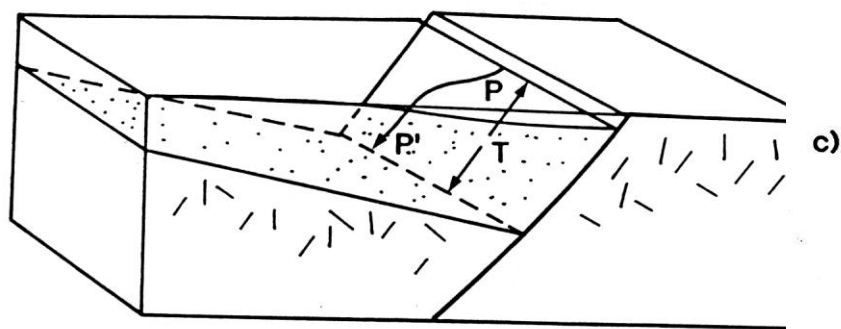
STRATAL PATTERNS



a)



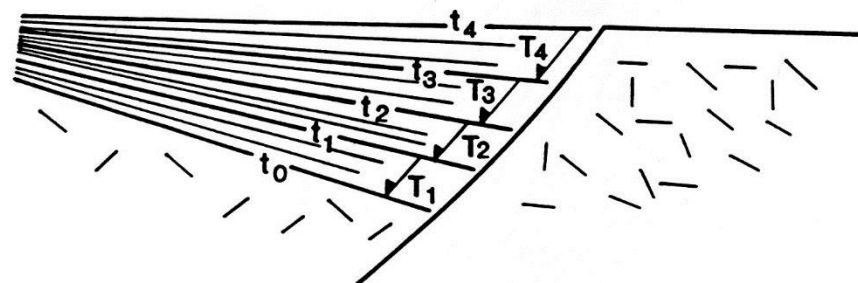
b)



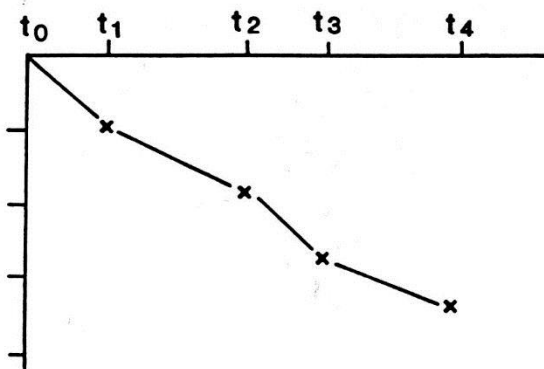
P-P' ABSOLUTE
MOTION VECTOR

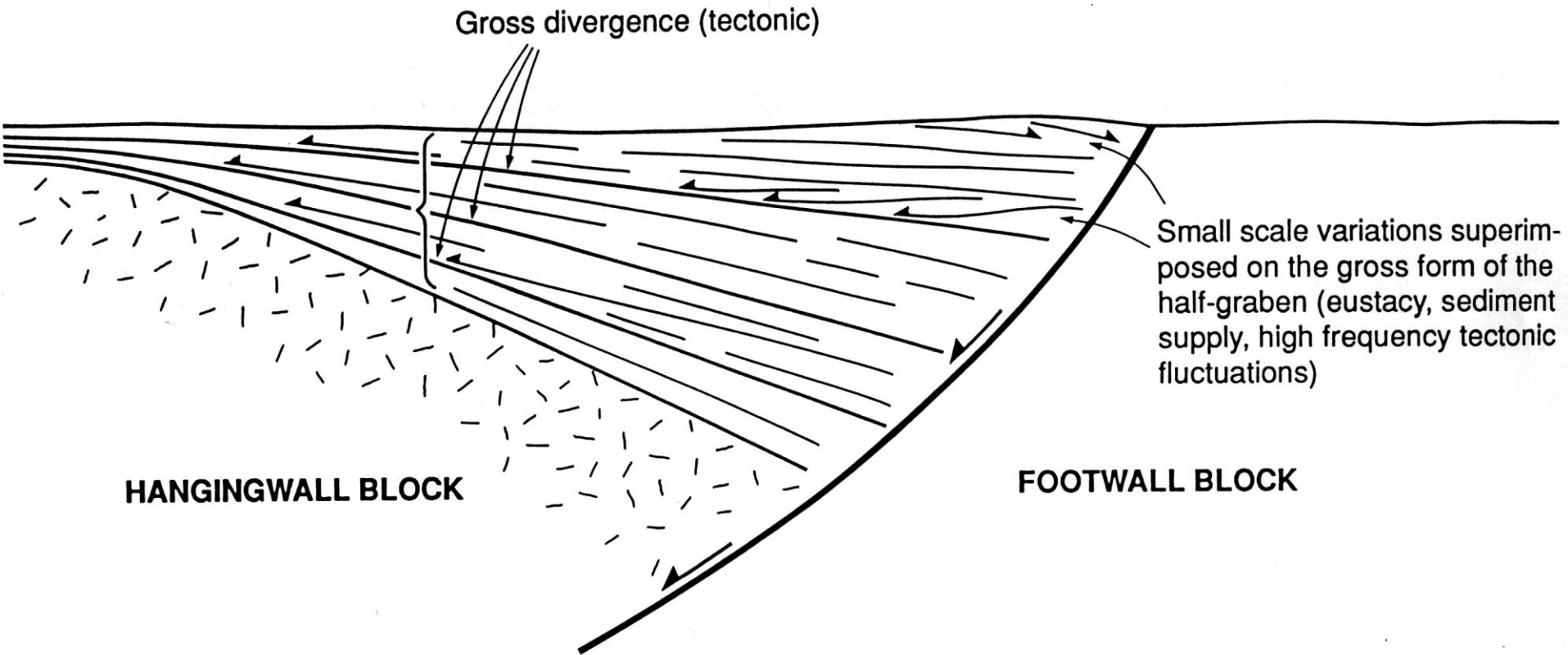
T DIP PARALLEL
COMPONENT OF
MOTION VECTOR

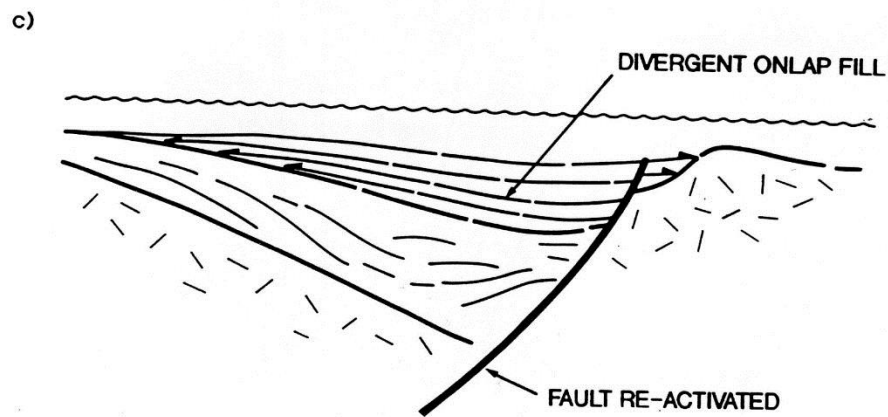
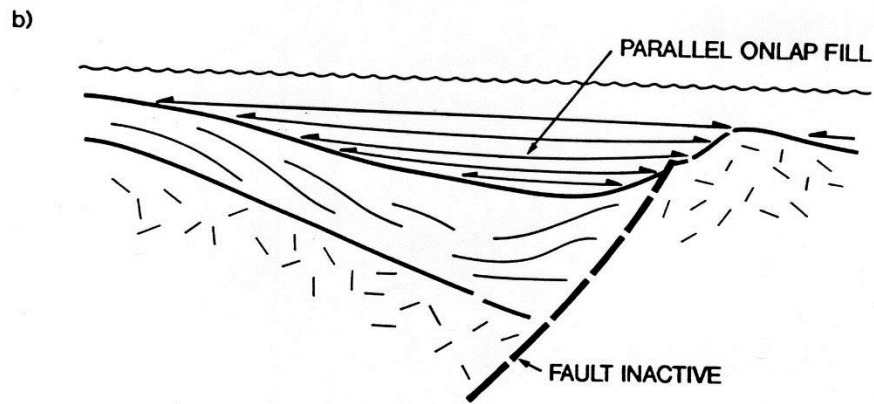
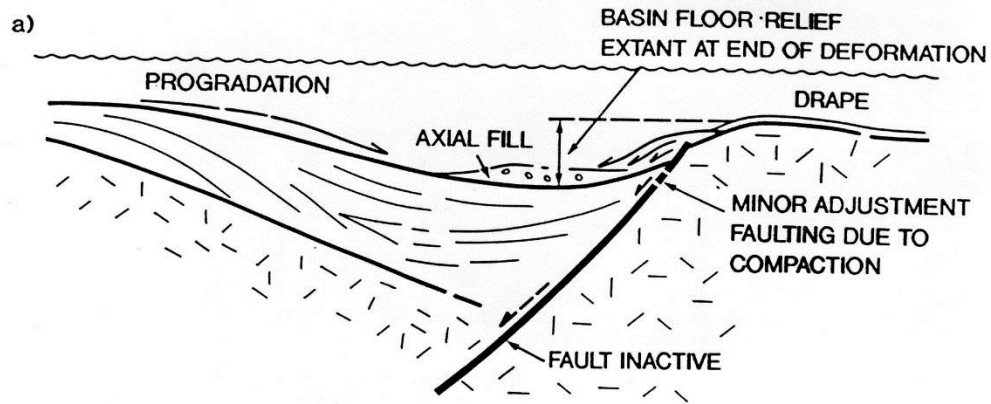
c)



d)







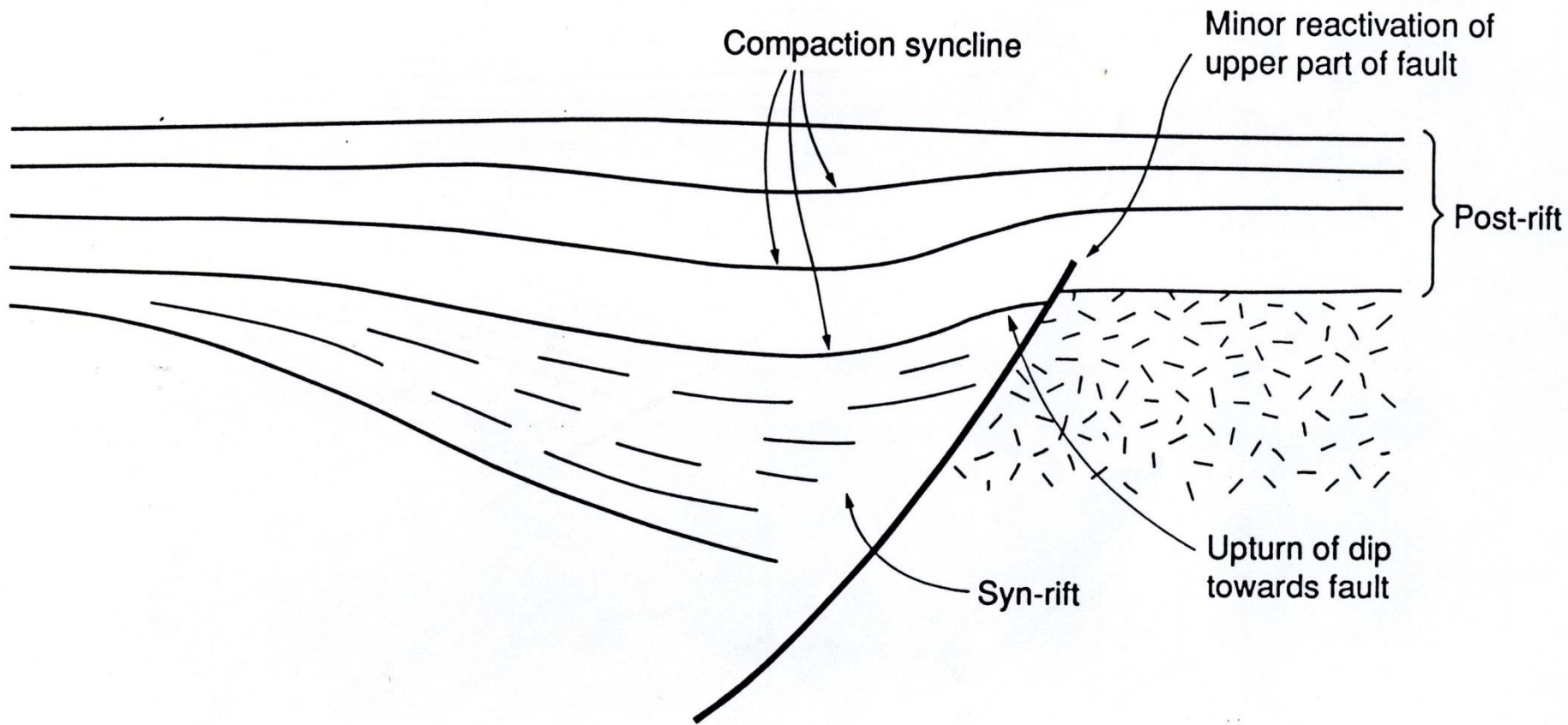
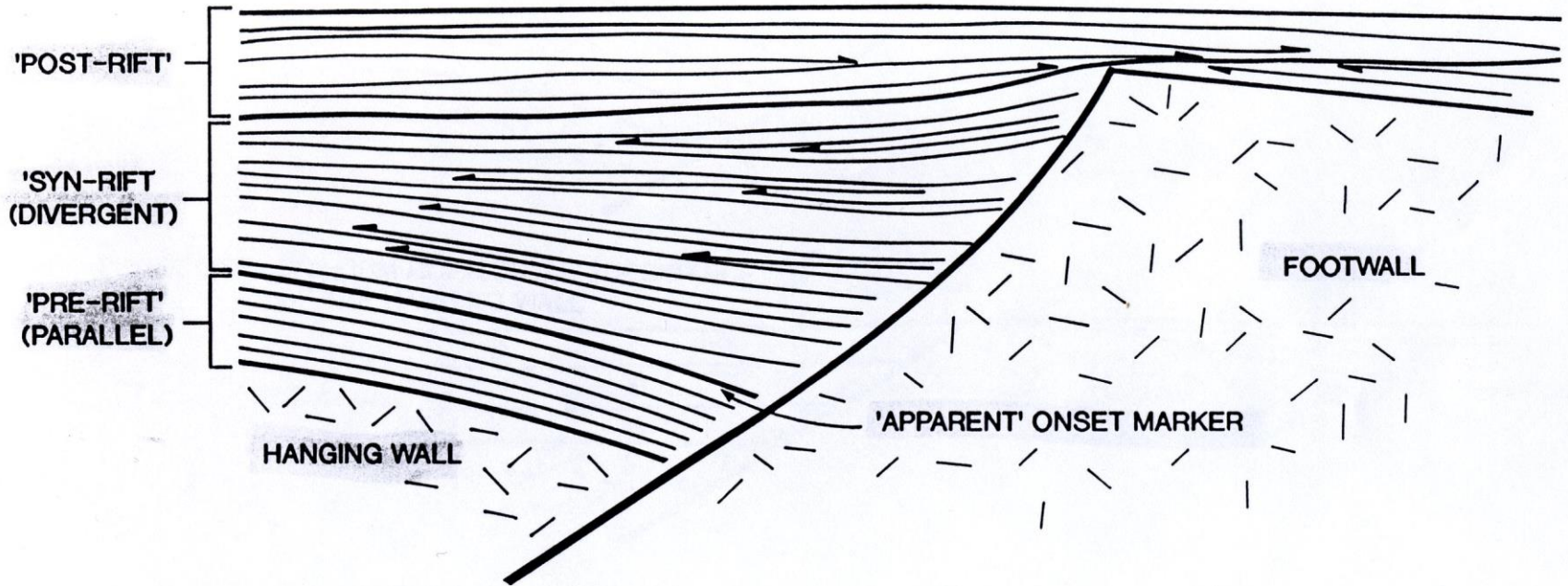
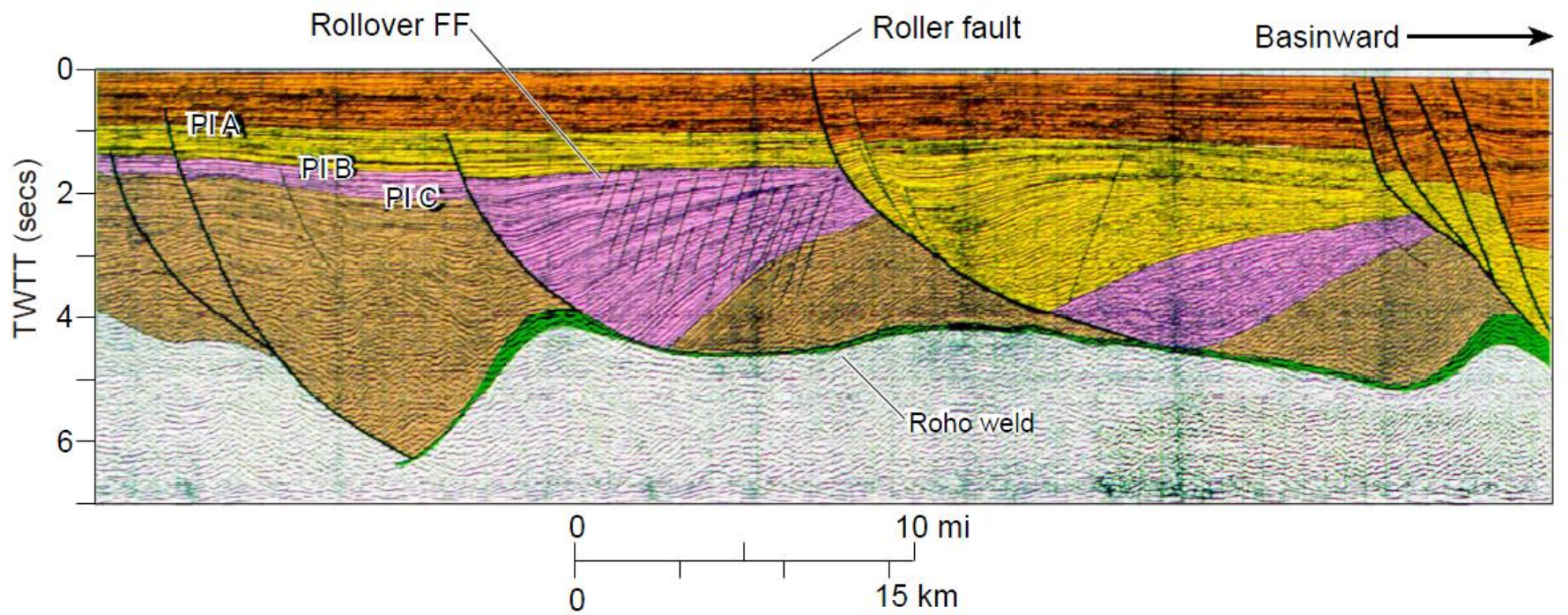
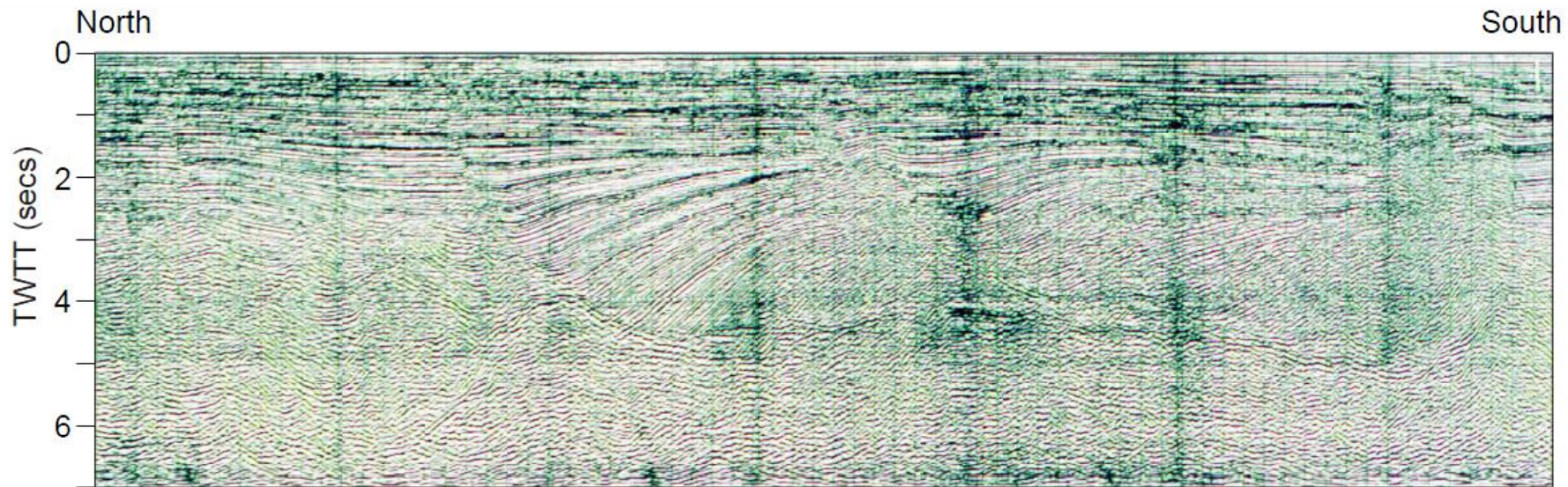


FIGURE 9



Growth of Normal Faults and Stratigraphic Development: Gulf of Suez





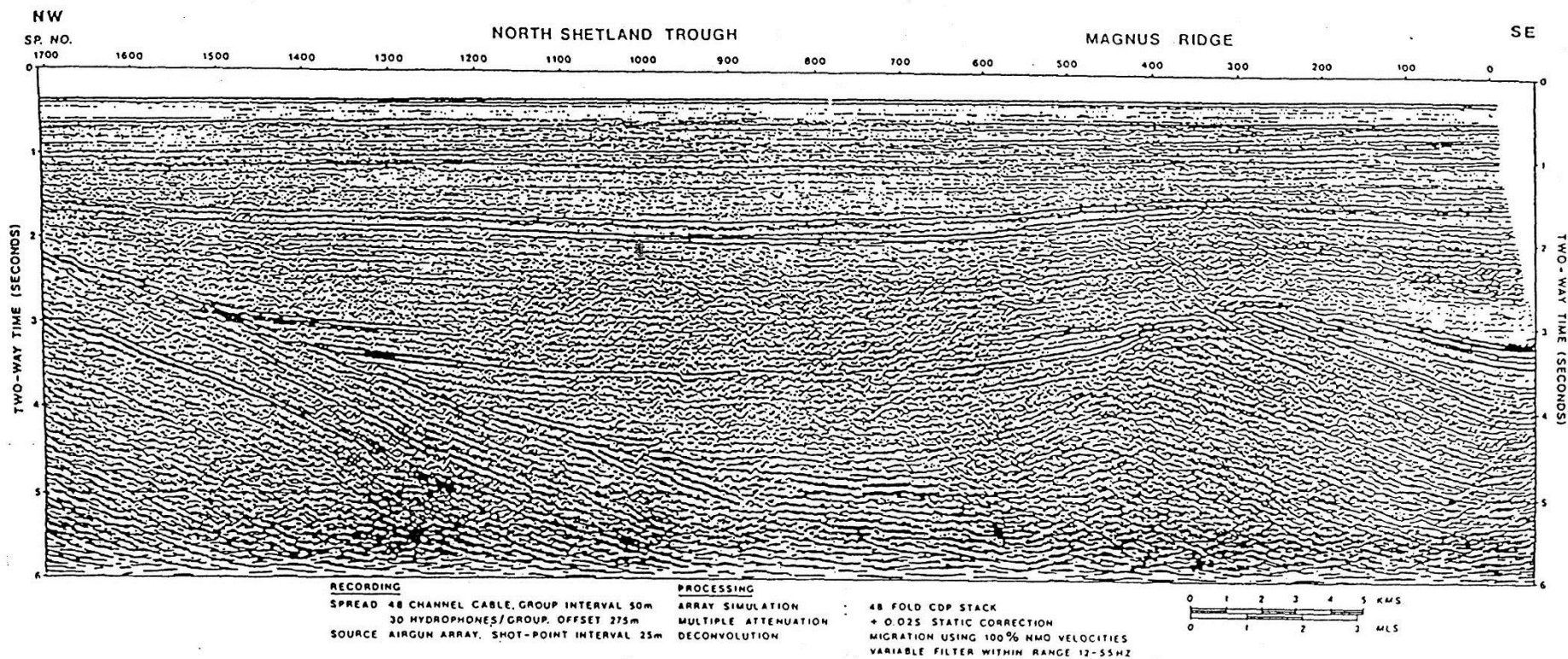


FIGURE 18

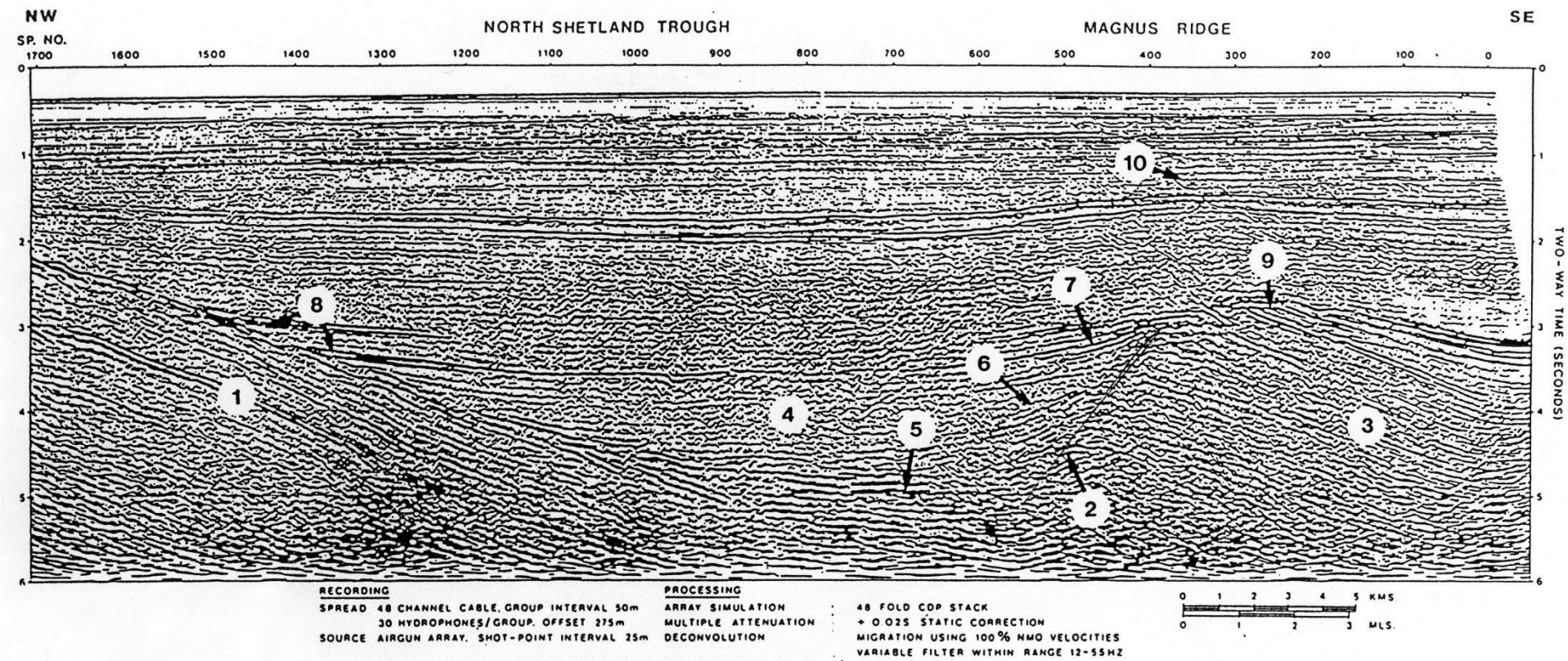
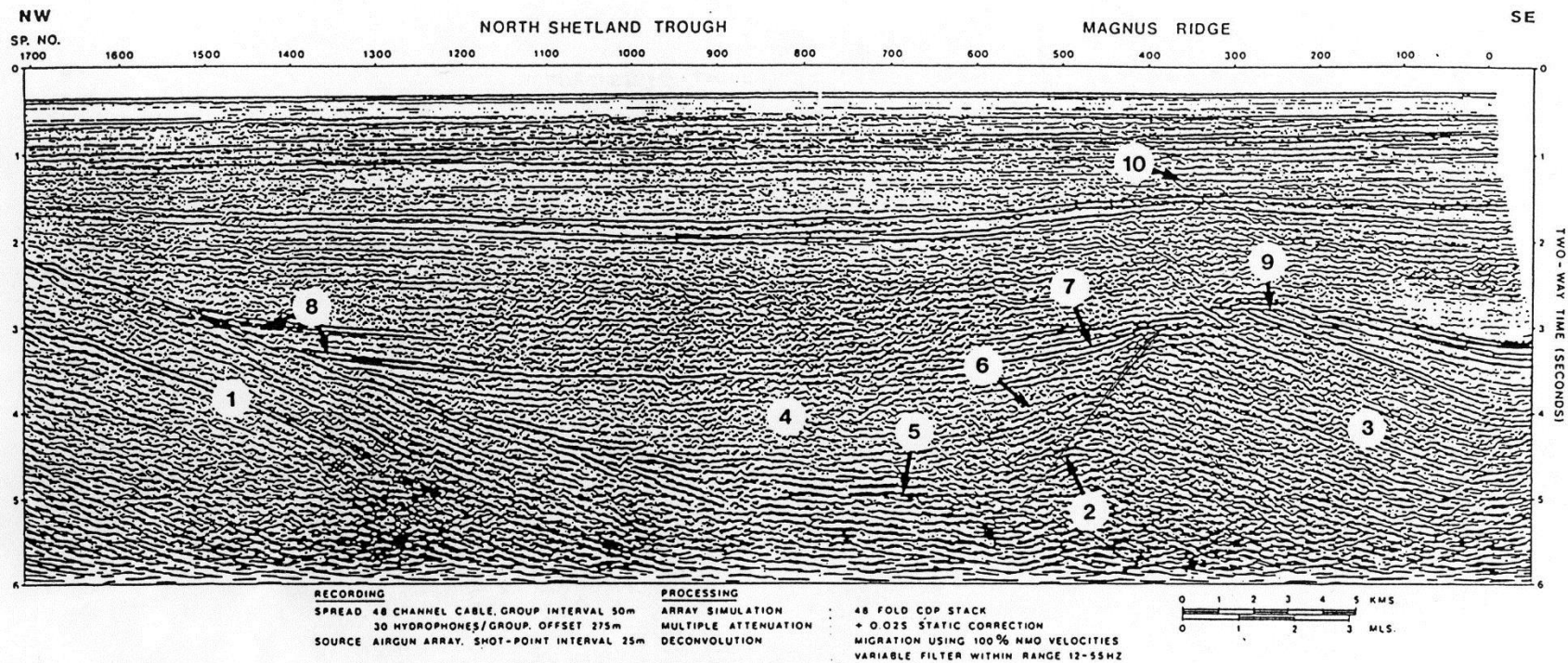
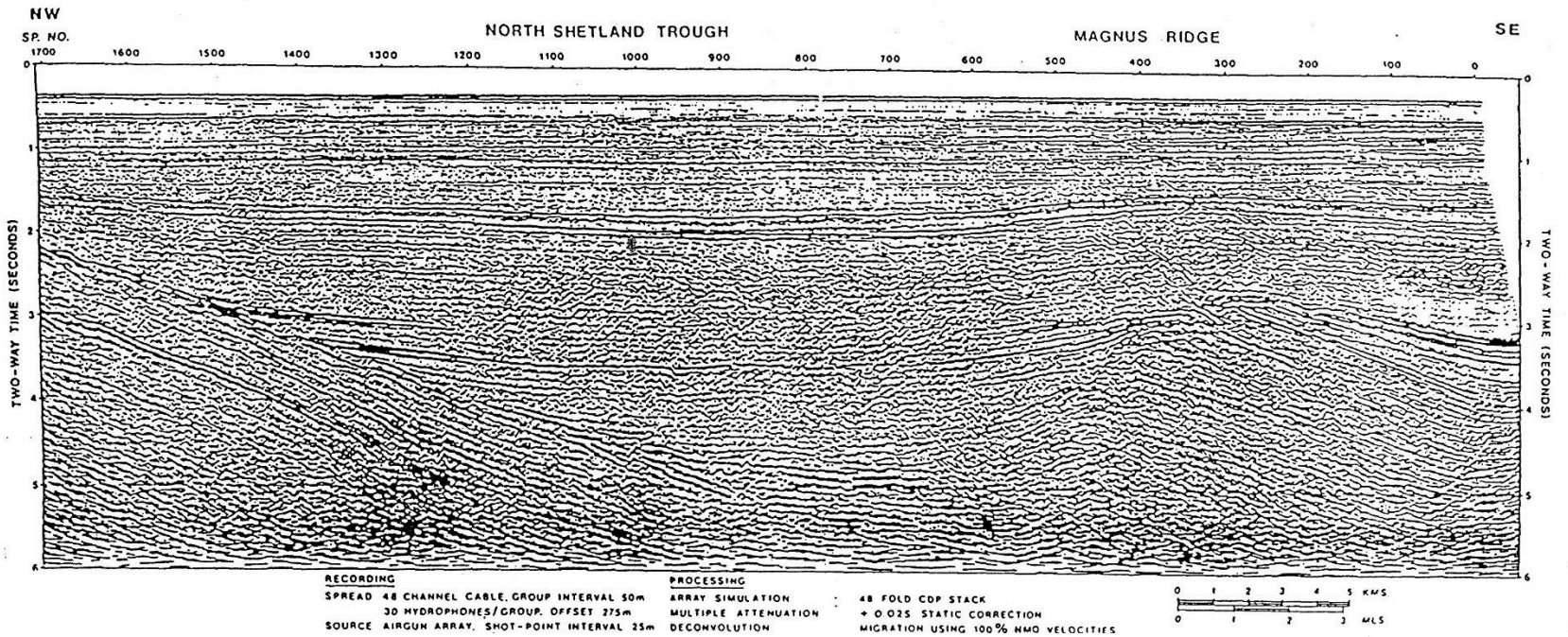
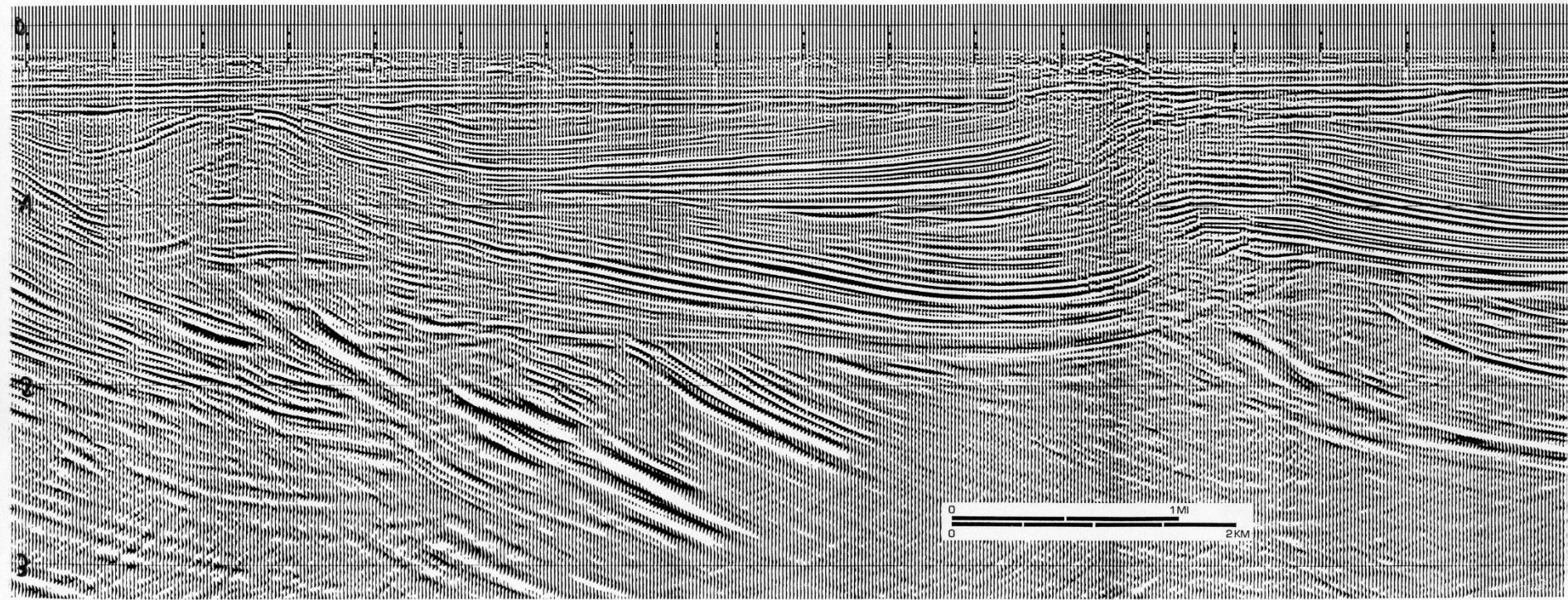


FIGURE 17



Interpreted Seismic Dip Section



11.
TWT [s]

Operational Interpretation of Figure 11 Showing 4 Seismic Depositional Sequences

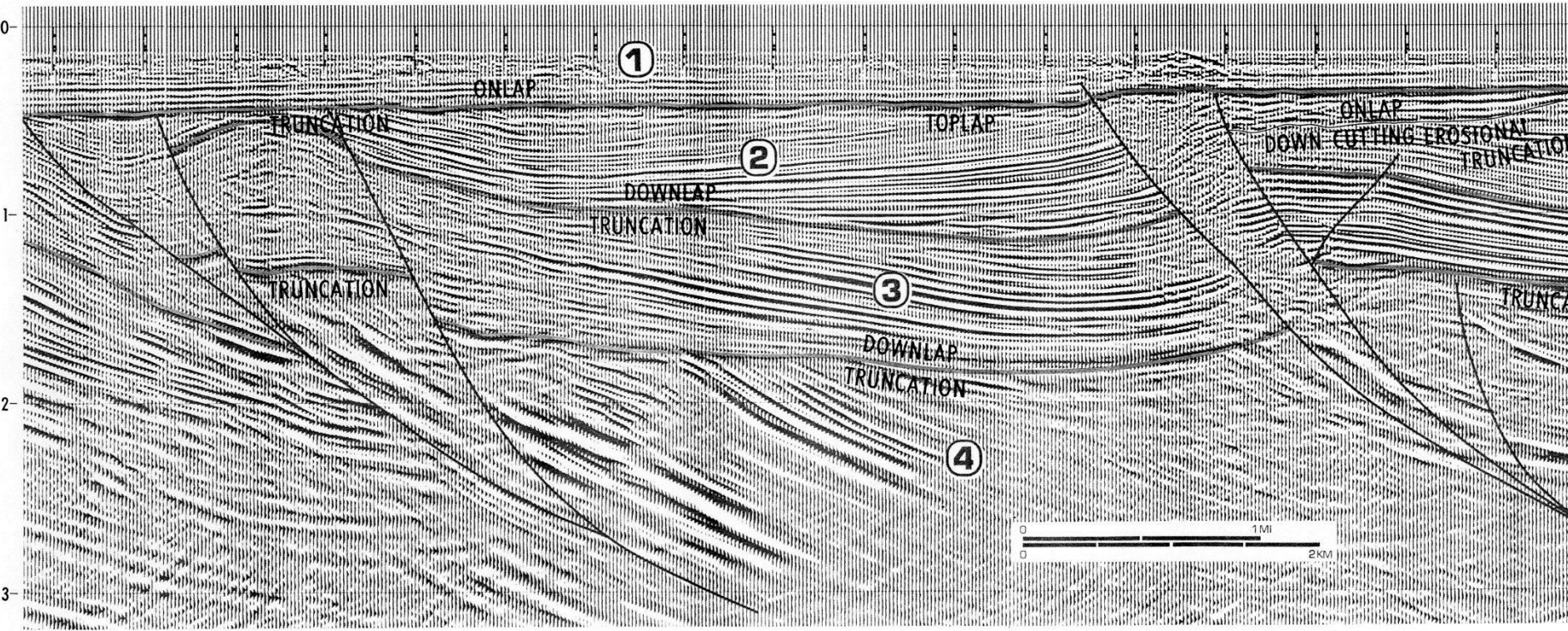
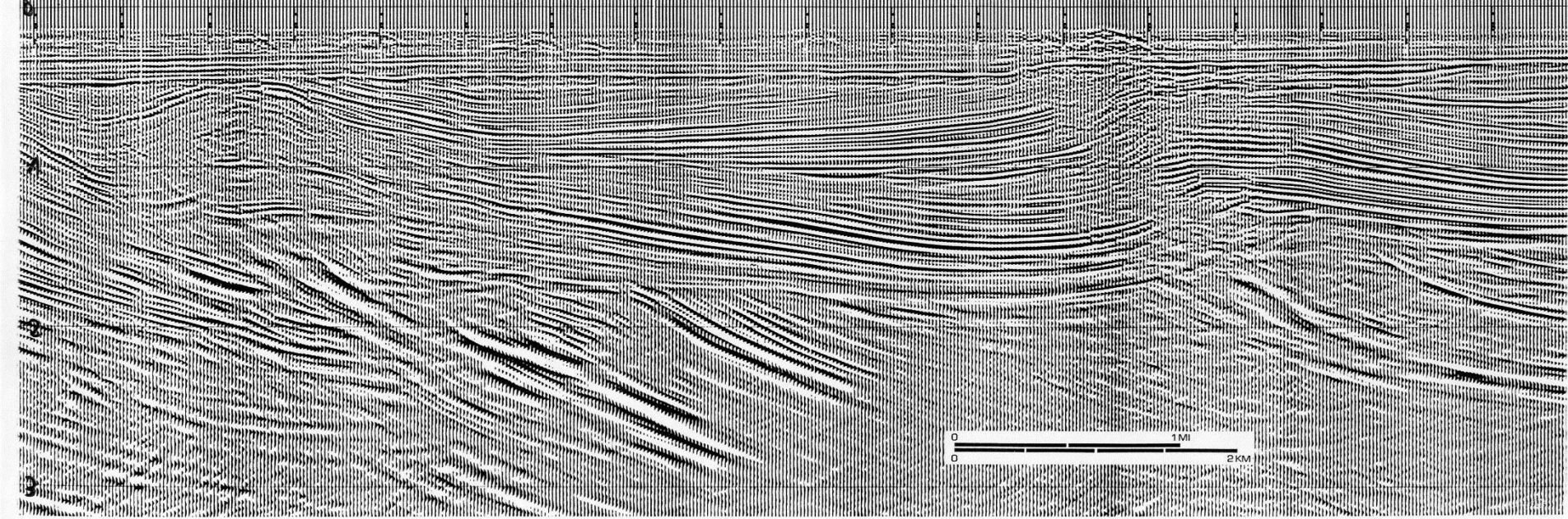


Figure 12.



Operational Interpretation of Figure 11 Showing 4 Seismic Depositional Sequences

