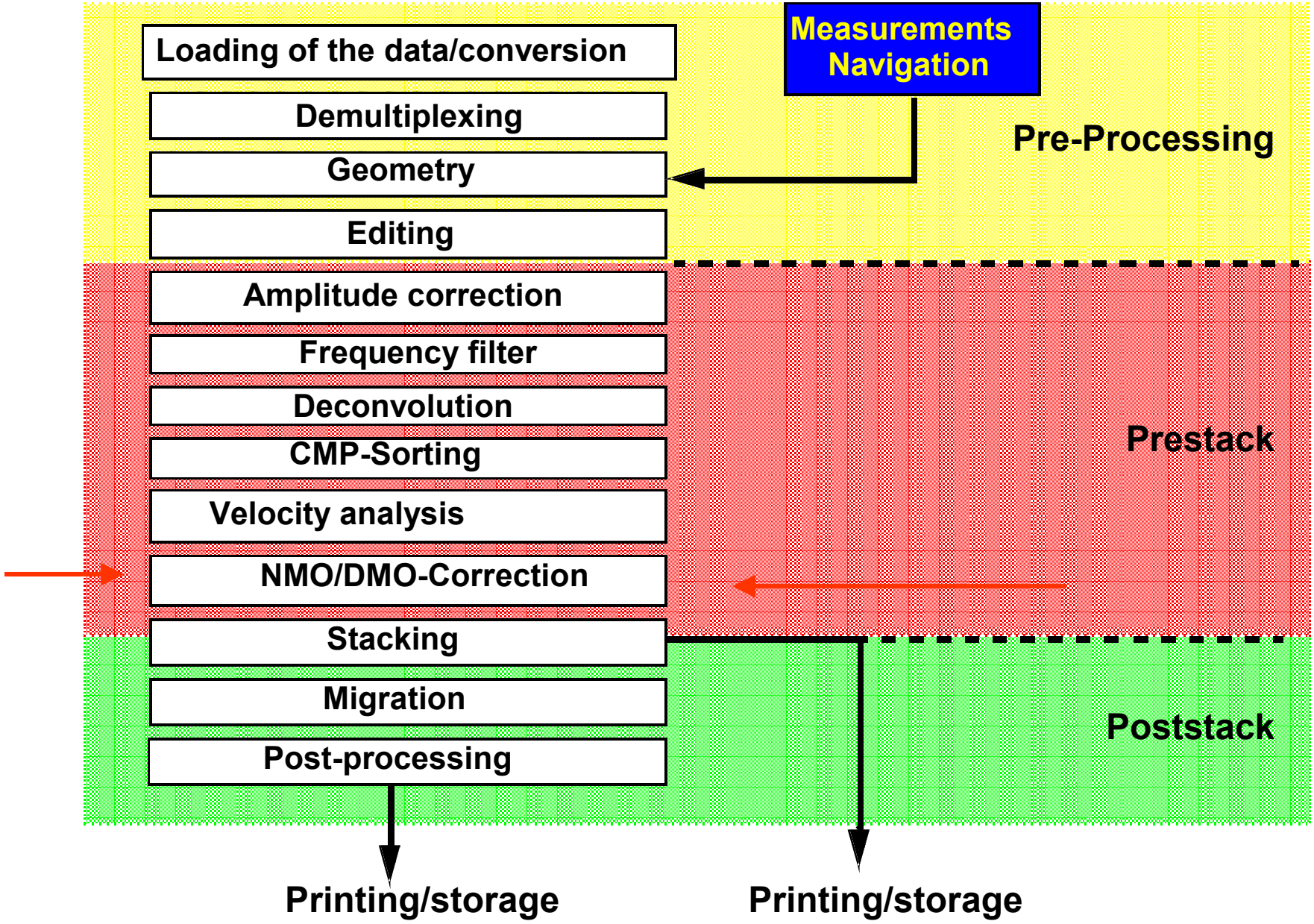
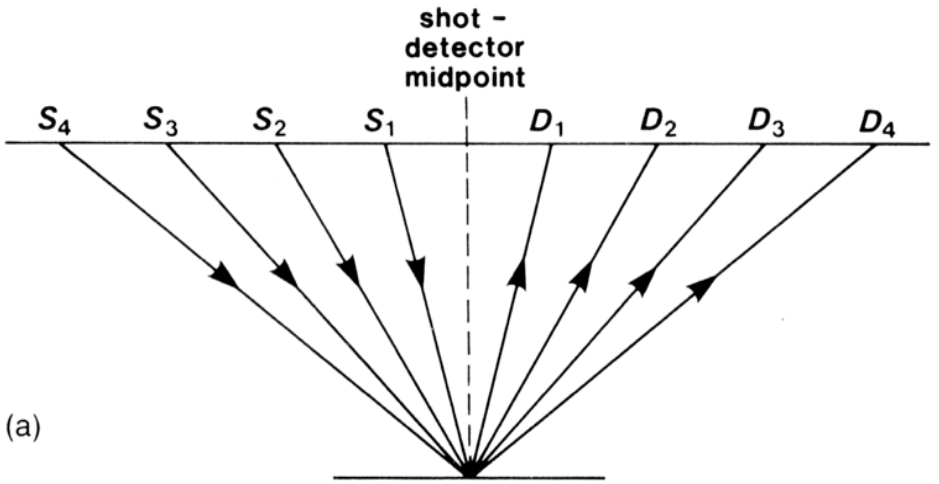
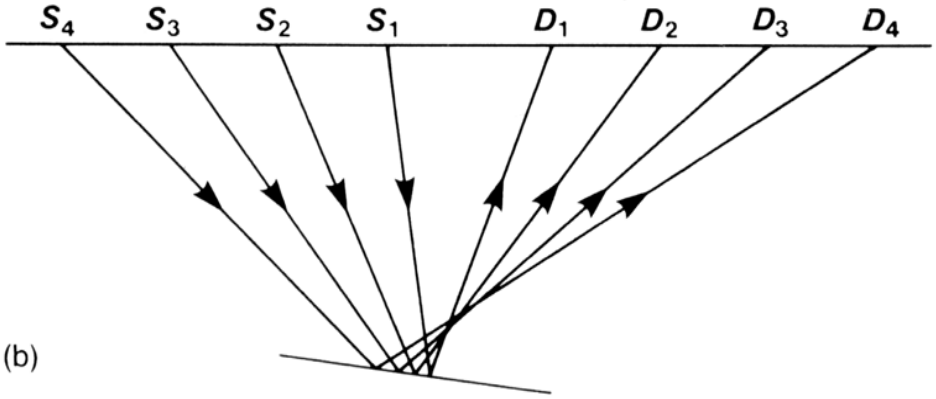
Reflection seismic 1
script

Basic scheme of the seismic data processing



Dip move out (DMO)





Horizontal Reflector

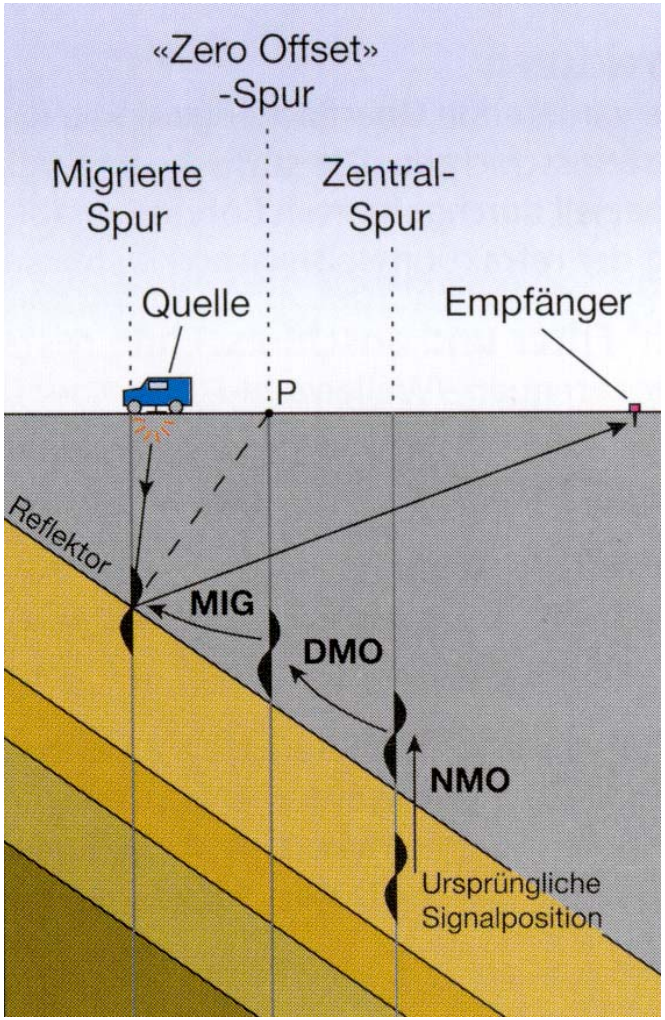
CMP = CDP

Dipping Reflector

CMP≠ CDP

CMP = common mid point
CDP = common depth point

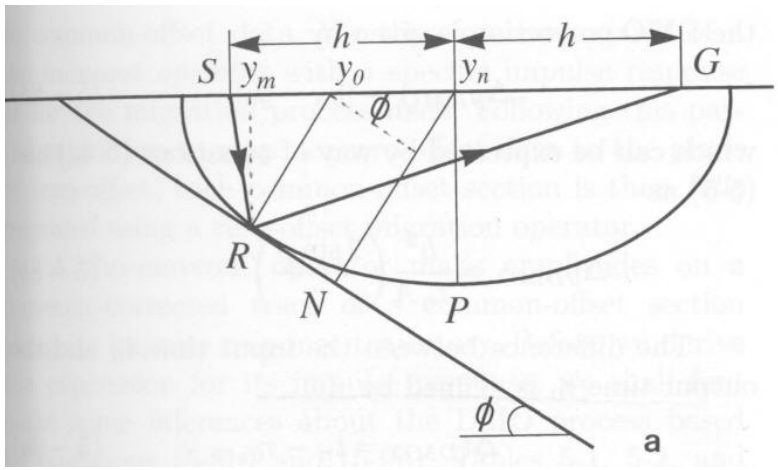
Dip Move out (DMO)

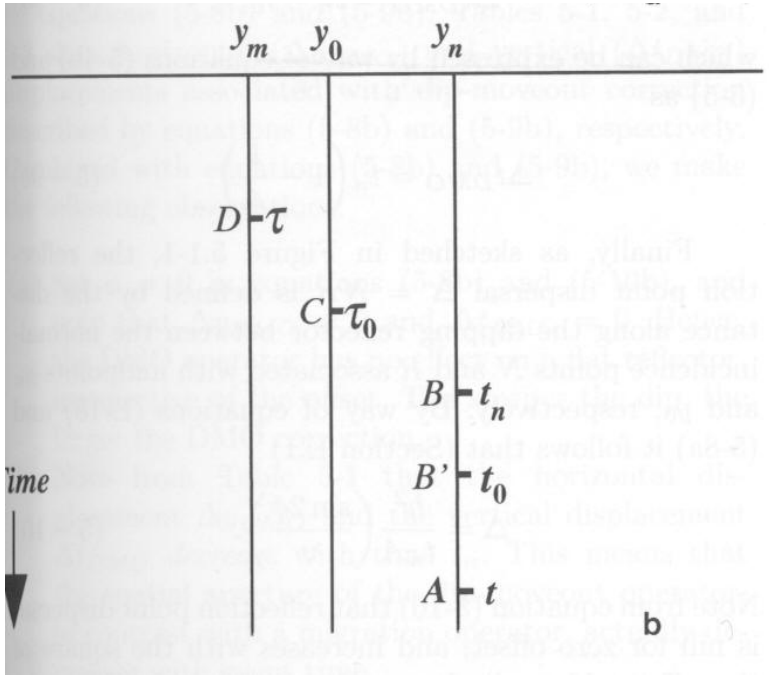


Legende

NMO	«Normal Move Out»-Korrektur
DMO	«Dip Move Out»-Korrektur
MIG	Migration

DMO correction





NMO:

coordinate transformation from y_n-t to y_n-t_n (A⇒B)

DMO:

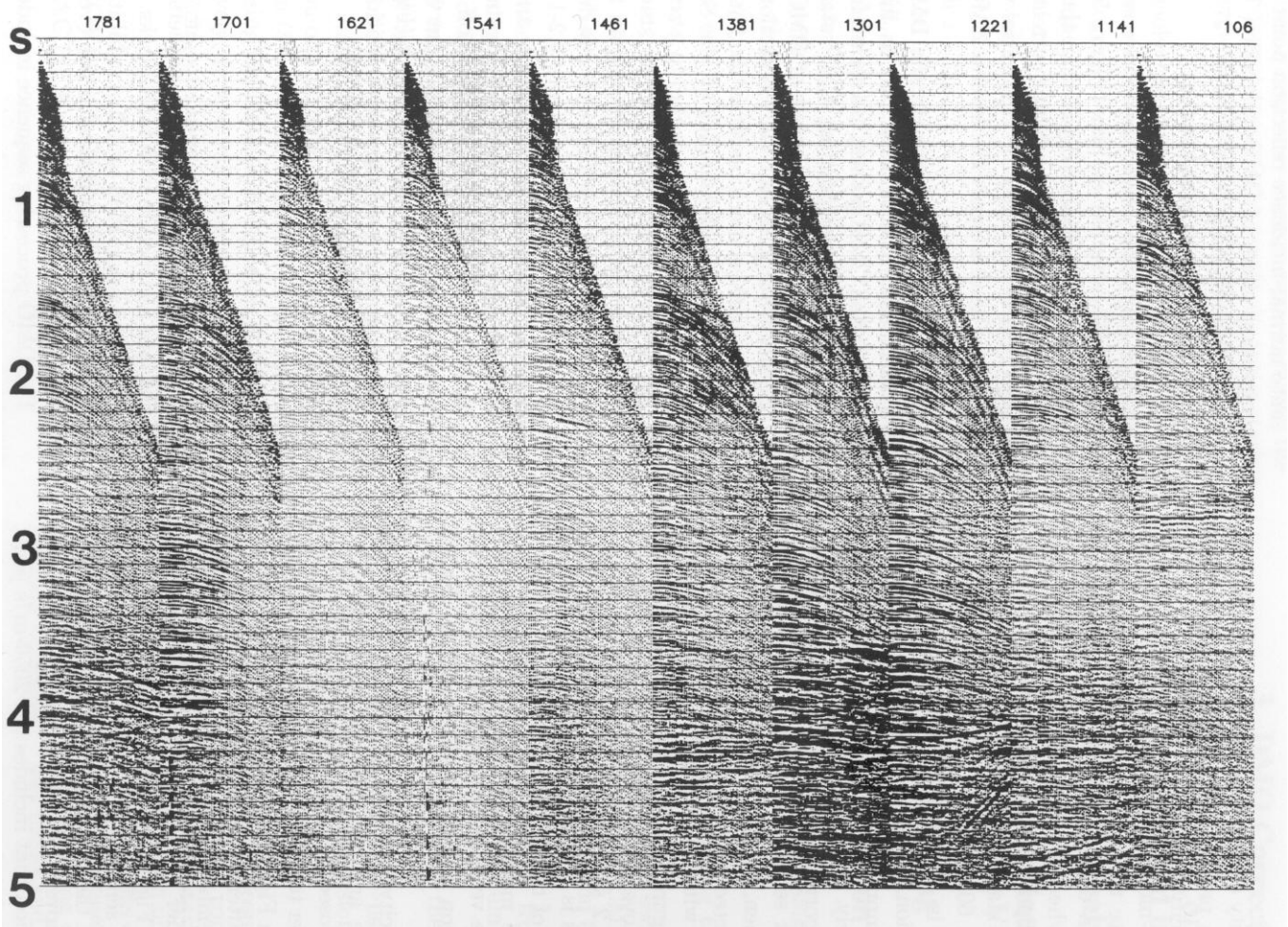
coordinate transformation from y_n-t_n to y_0-τ_0 (B⇒C)

Zero-offset migration:

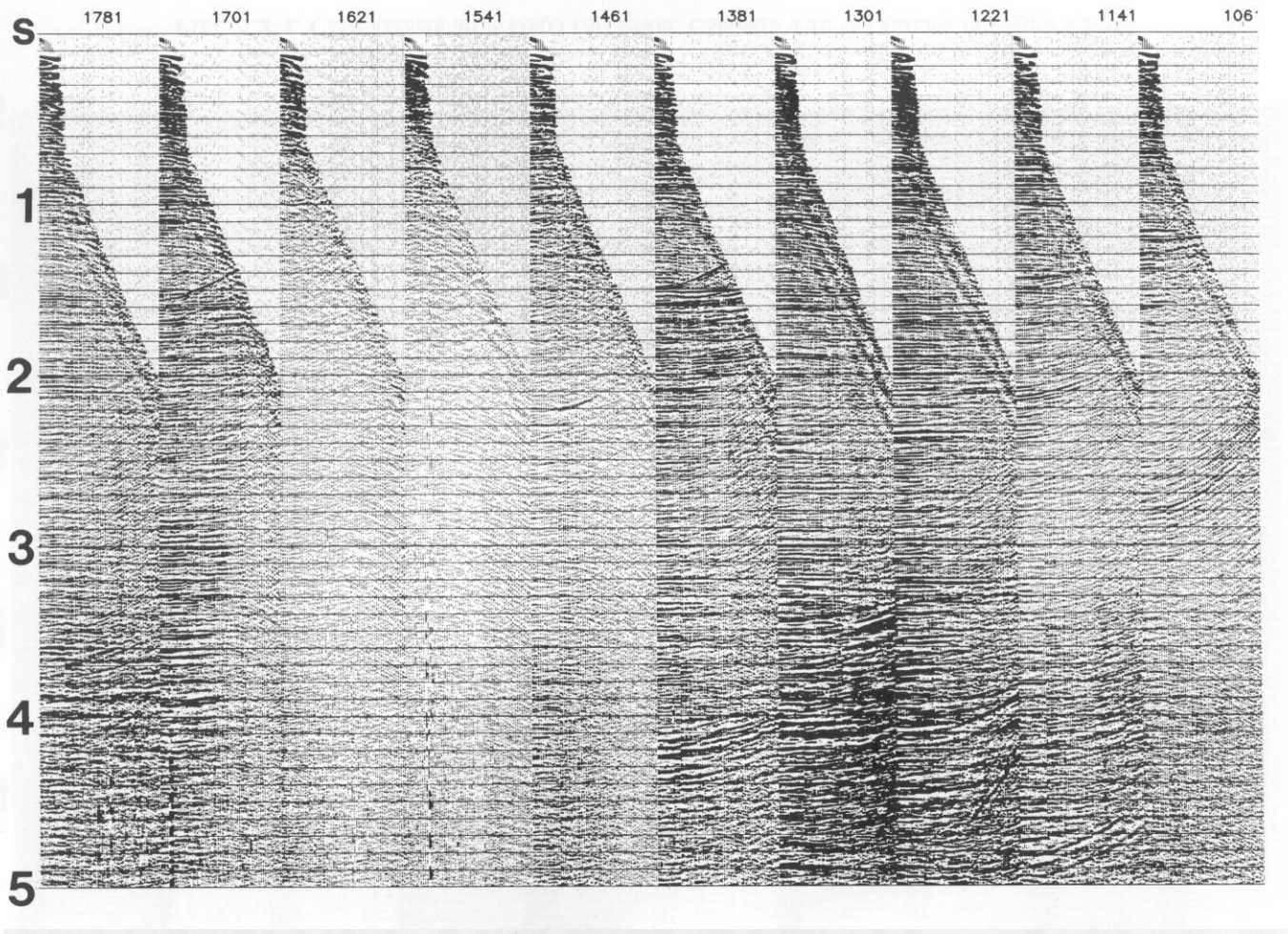
coordinate transformation from y_0-τ_0 to y_m-τ (C⇒D)

Selected CMP gathers from a 2D marine dataset

Selected CMP gathers from a 2D marine dataset



Selected CMP gathers from a 2D marine dataset



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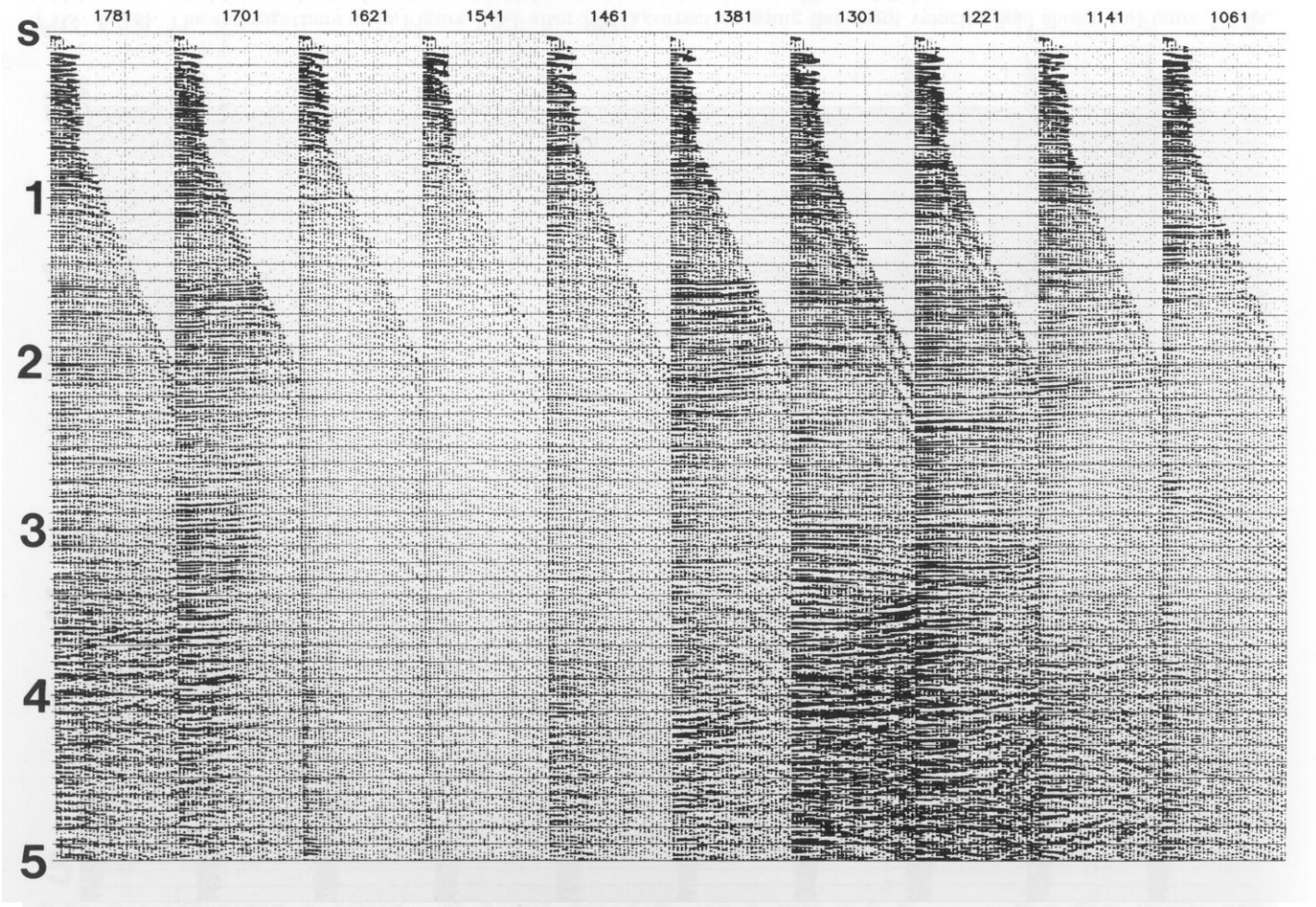
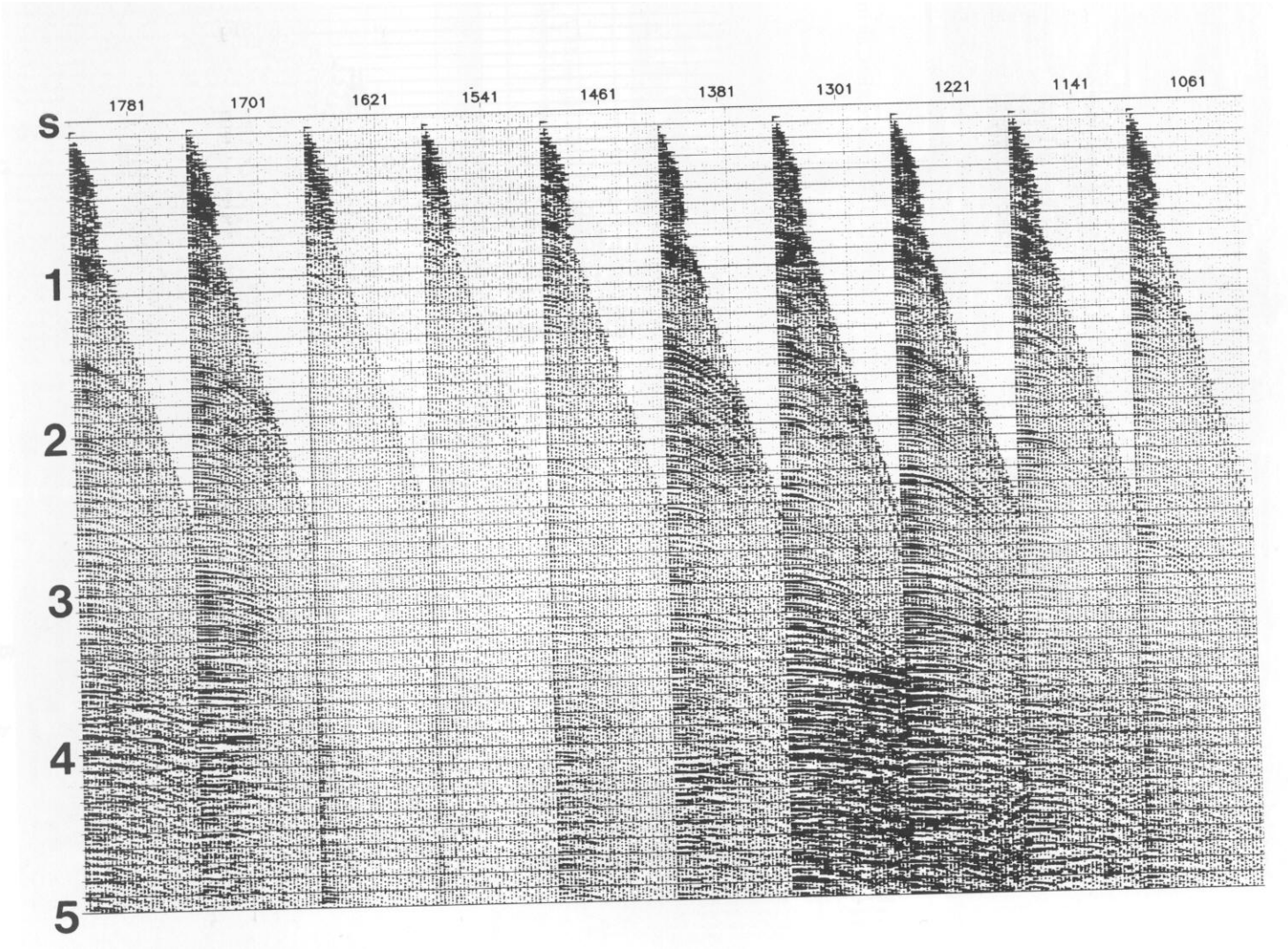
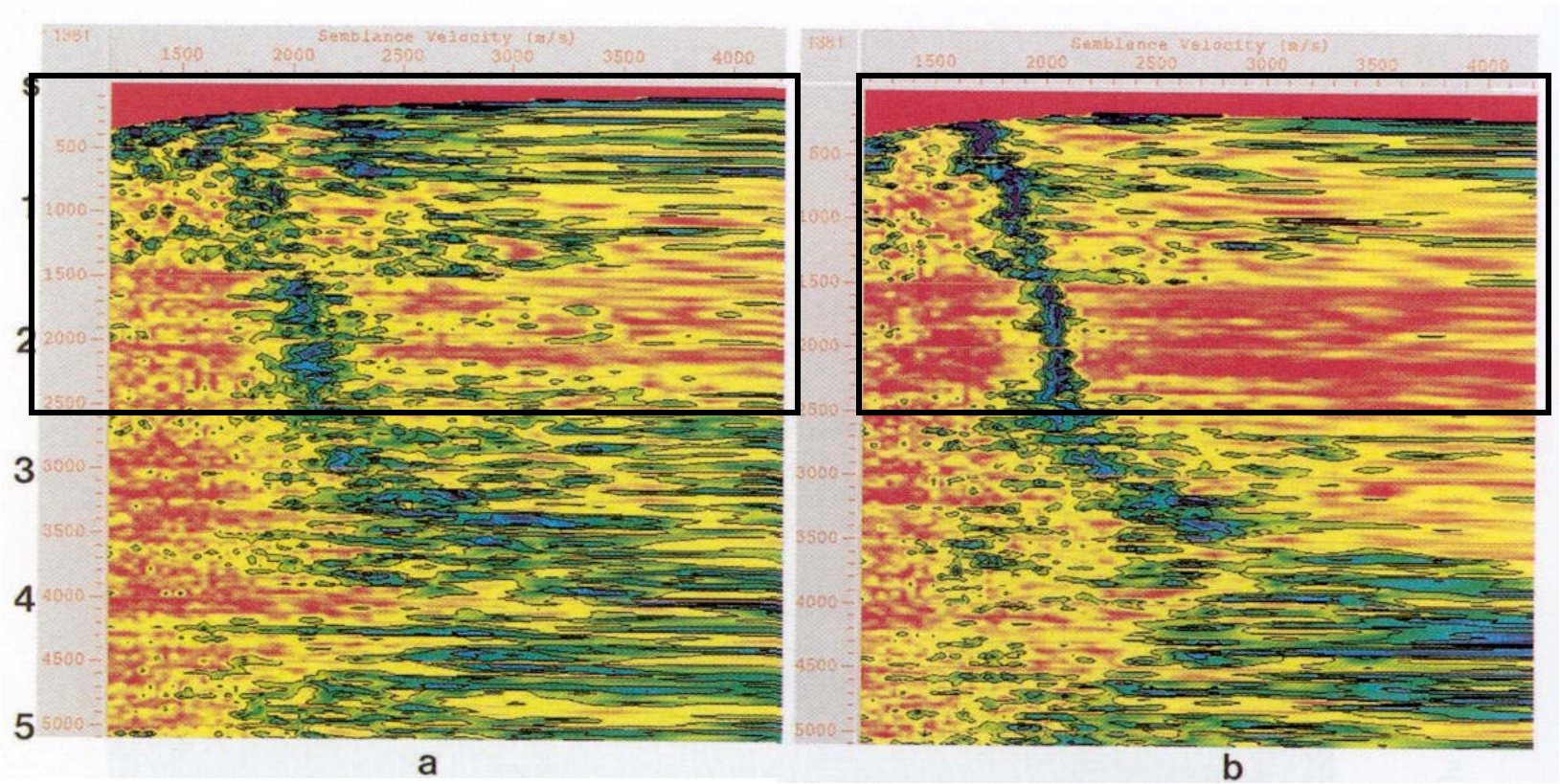


Selected CMP gathers from a 2D marine dataset



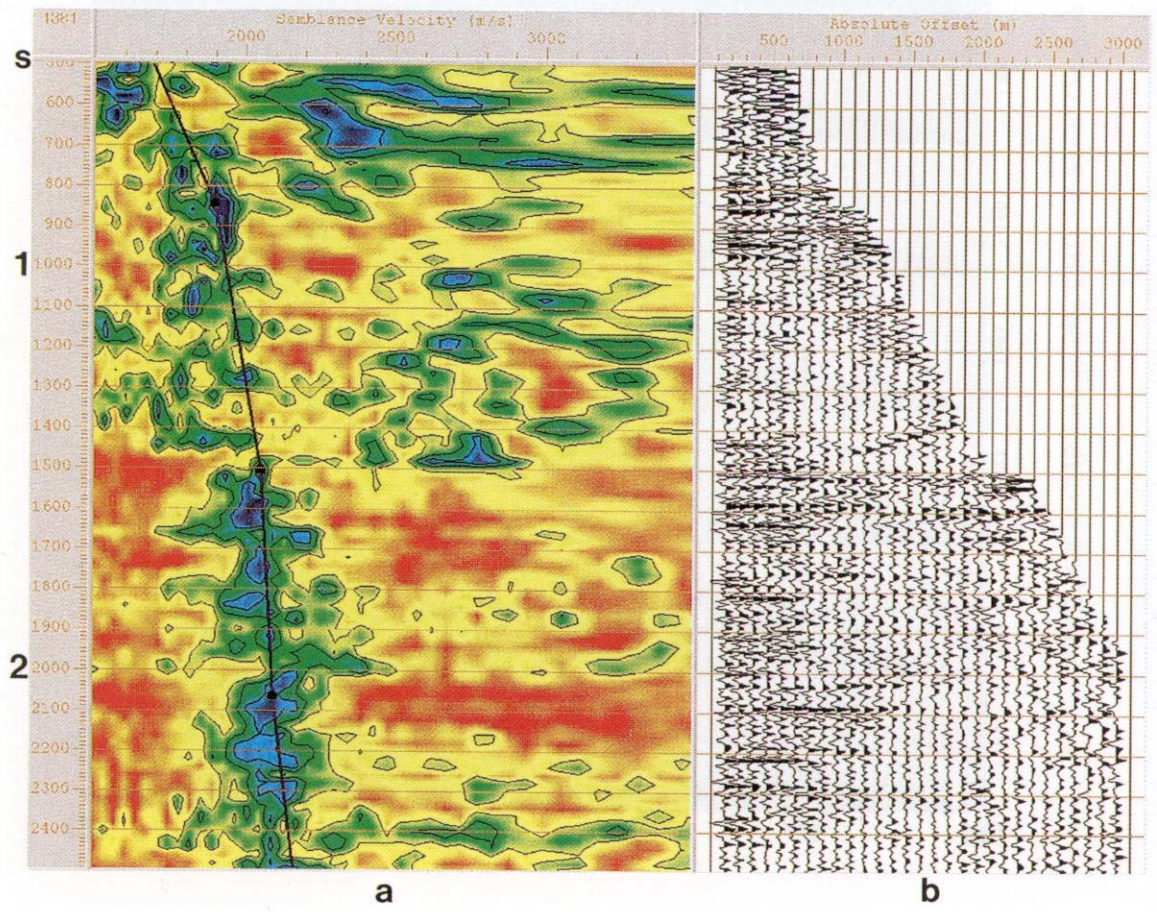
Velocity spectrum



Without DMO correction

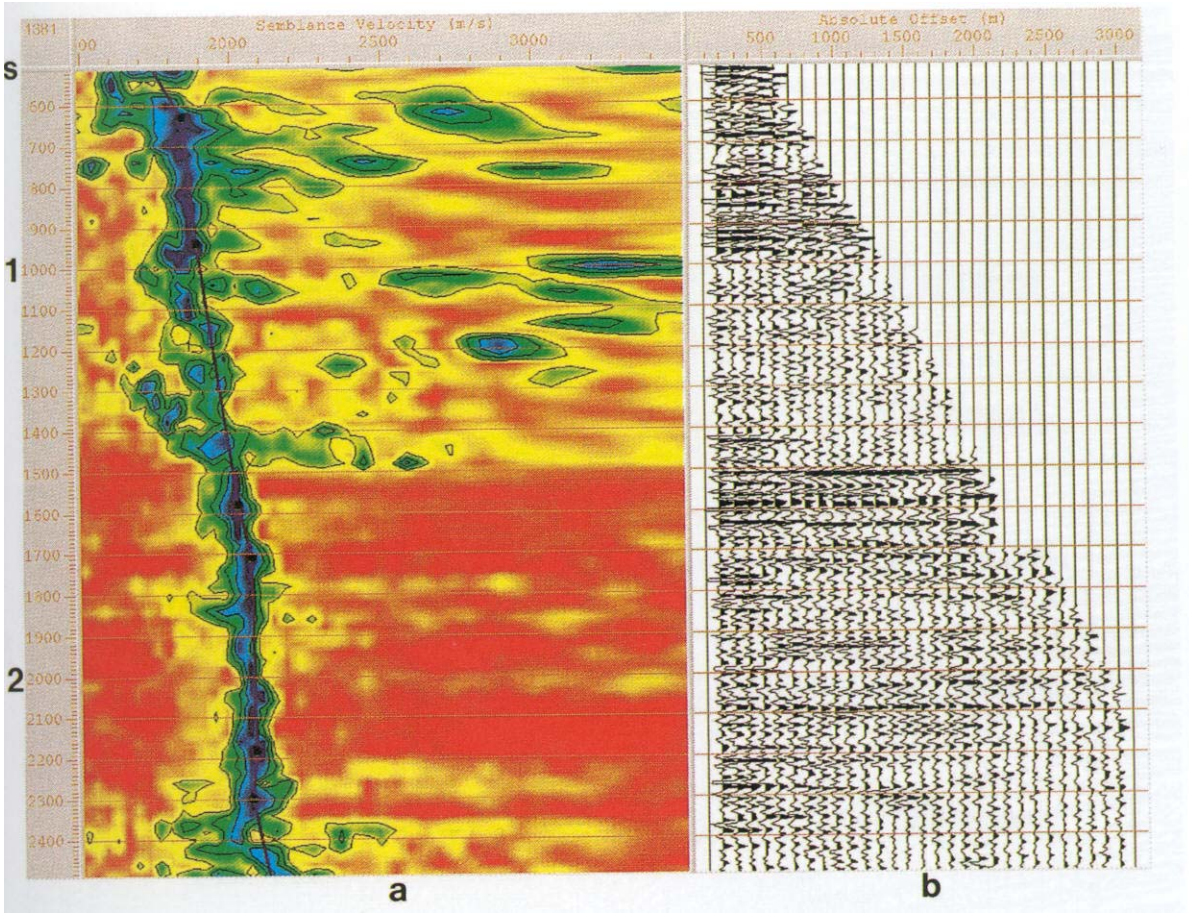
With DMO correction

Close-up view of the velocity spectrum and CMP gather



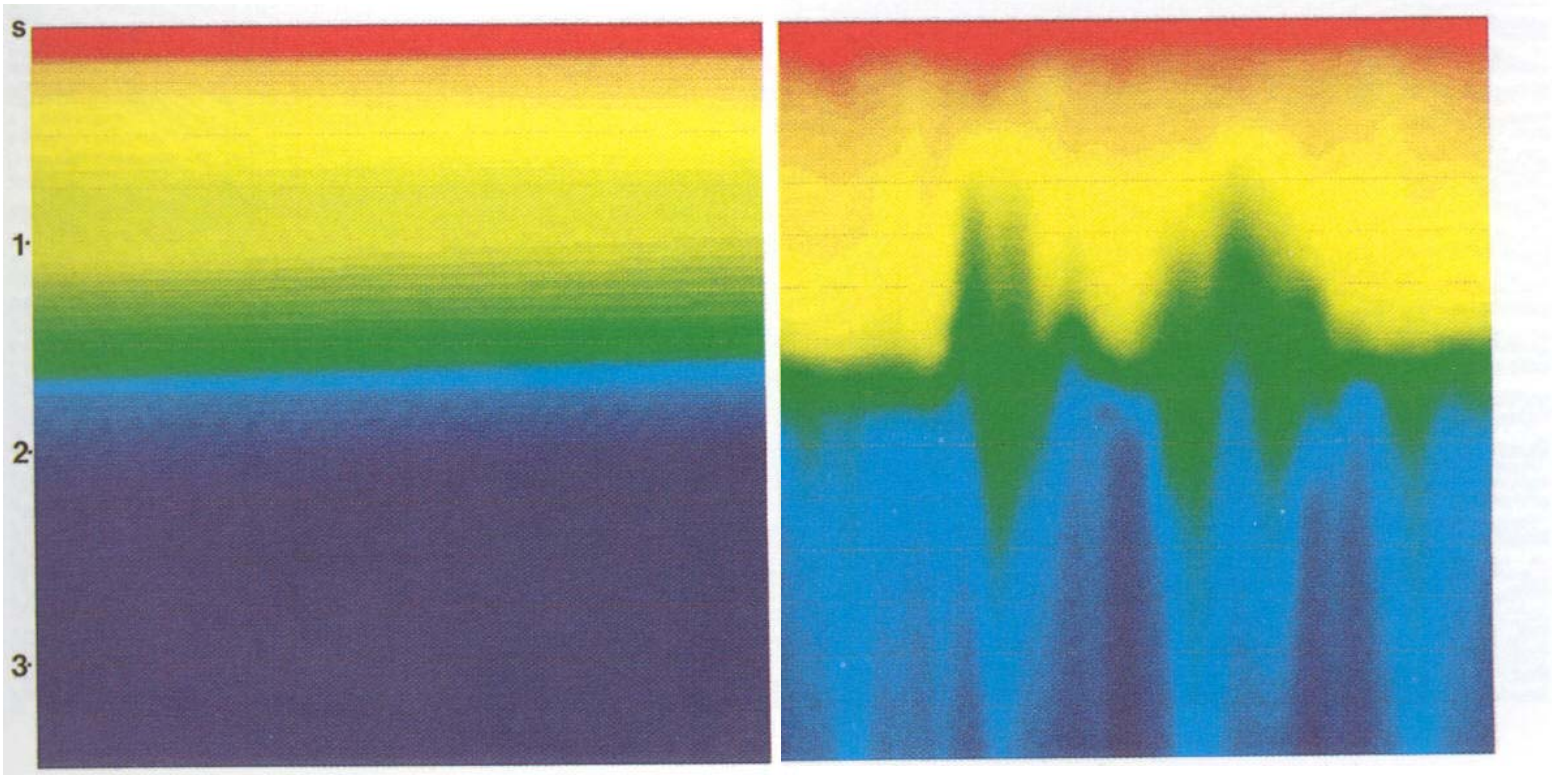
Without DMO correction

Close-up view of the velocity spectrum and CMP gather



With DMO correction

Velocity field used to stack the CMP gathers



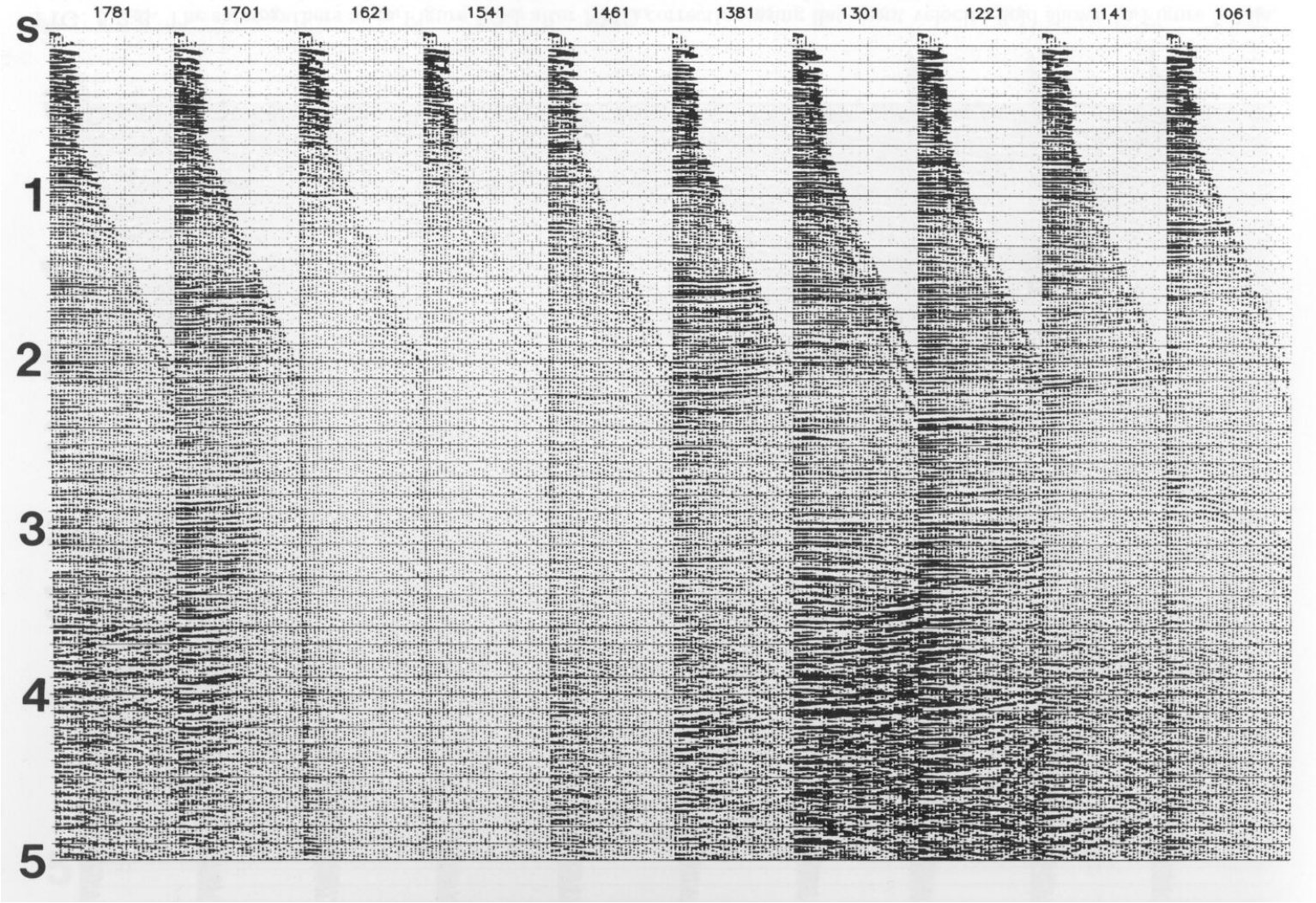
Without DMO correction

With DMO correction

NMO correction of DMO corrected gathers

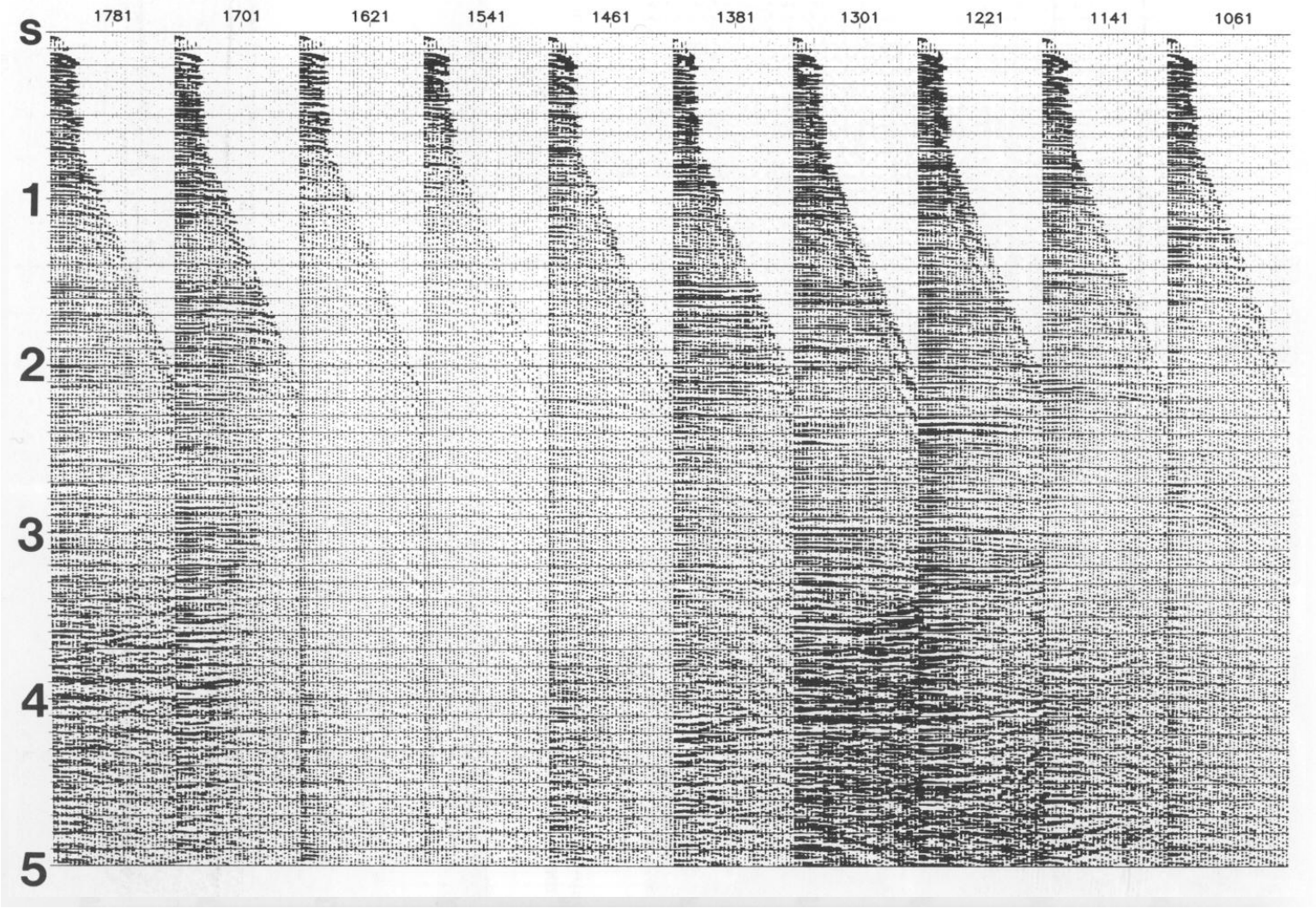
Without lateral varying and with lateral varying velocity

NMO correction of DMO corrected gathers



Without lateral varying and with lateral varying velocity

NMO correction of DMO corrected gathers

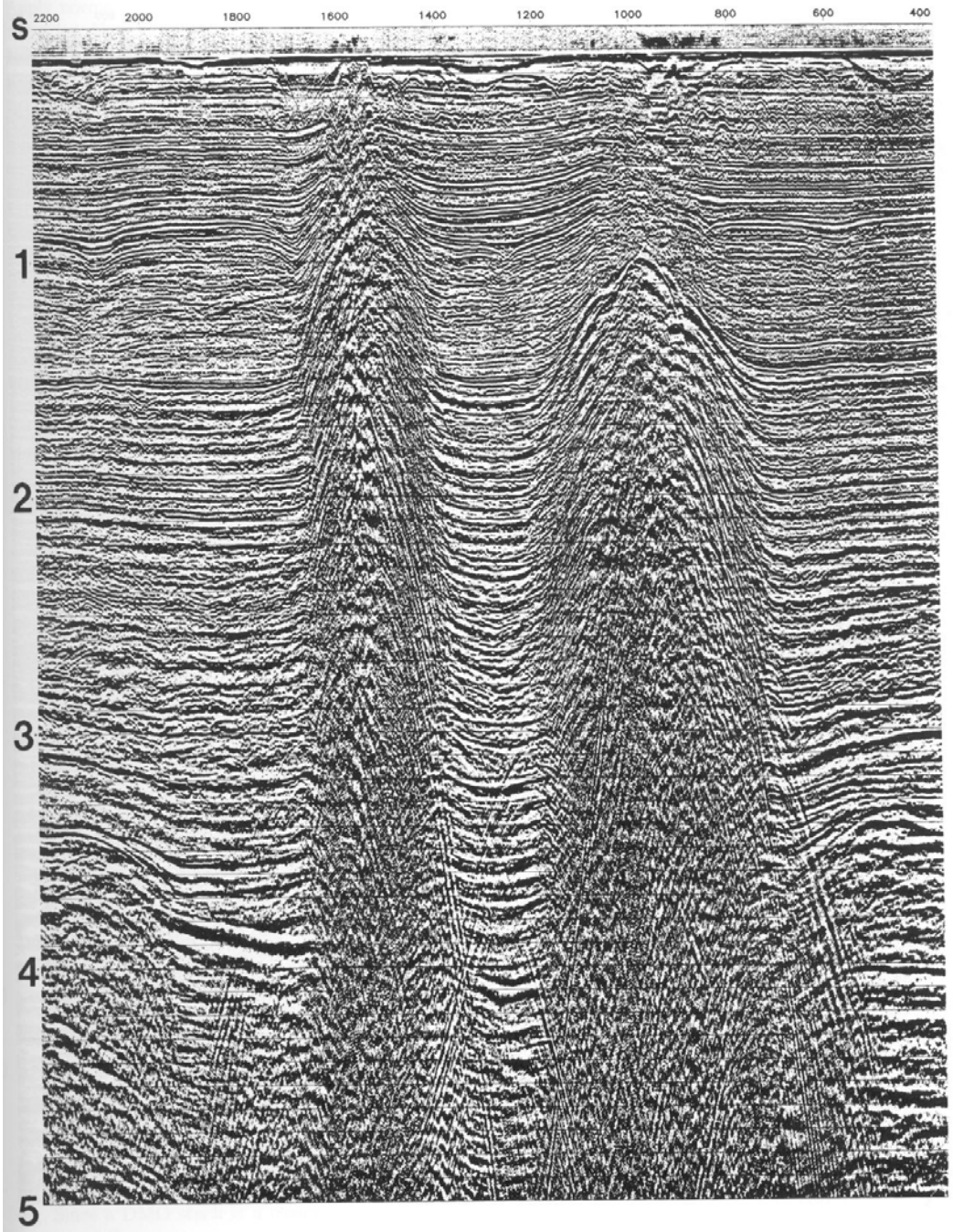


Without lateral varying and with lateral varying velocity

CMP stack

and

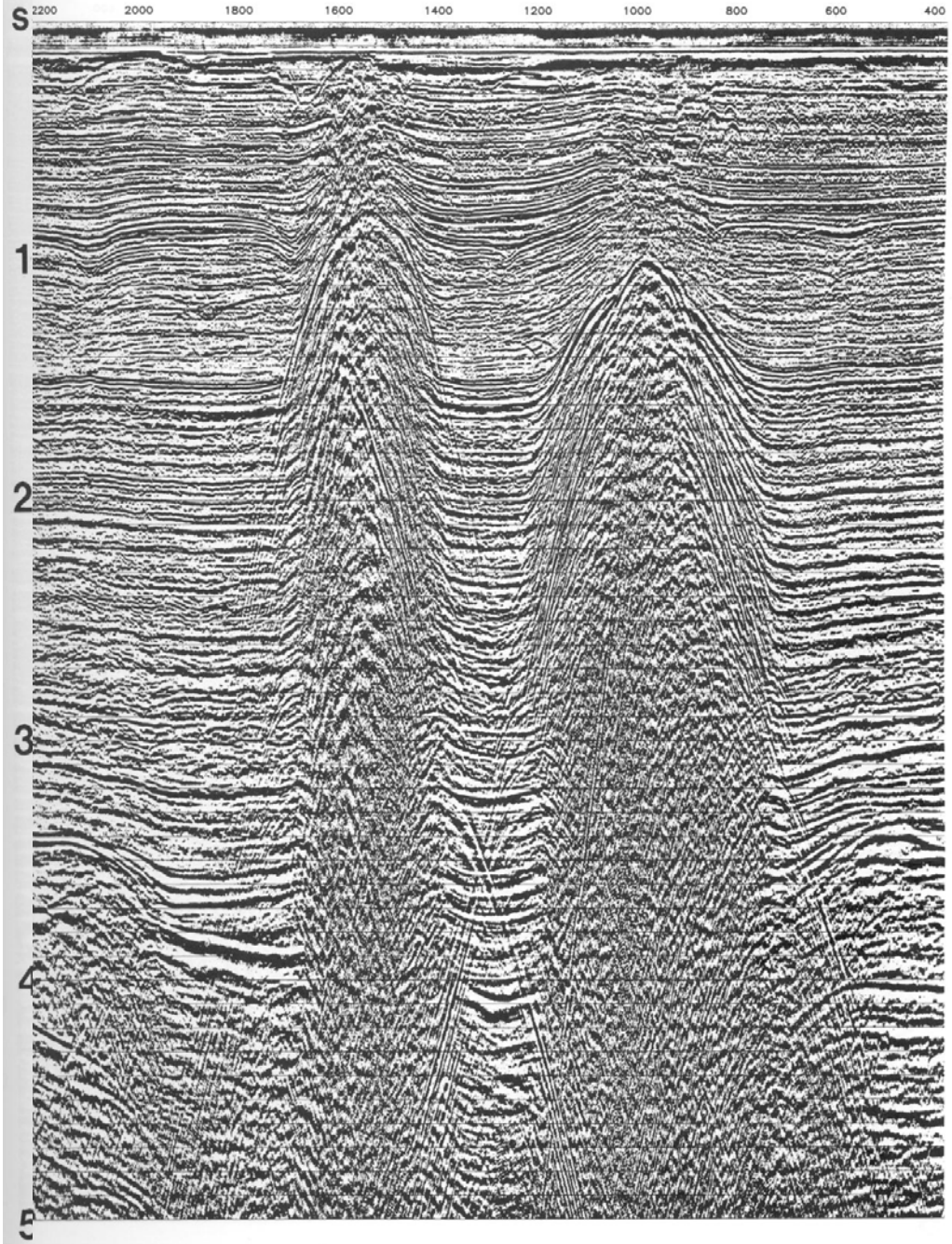
DMO stack



CMP stack

and

DMO stack

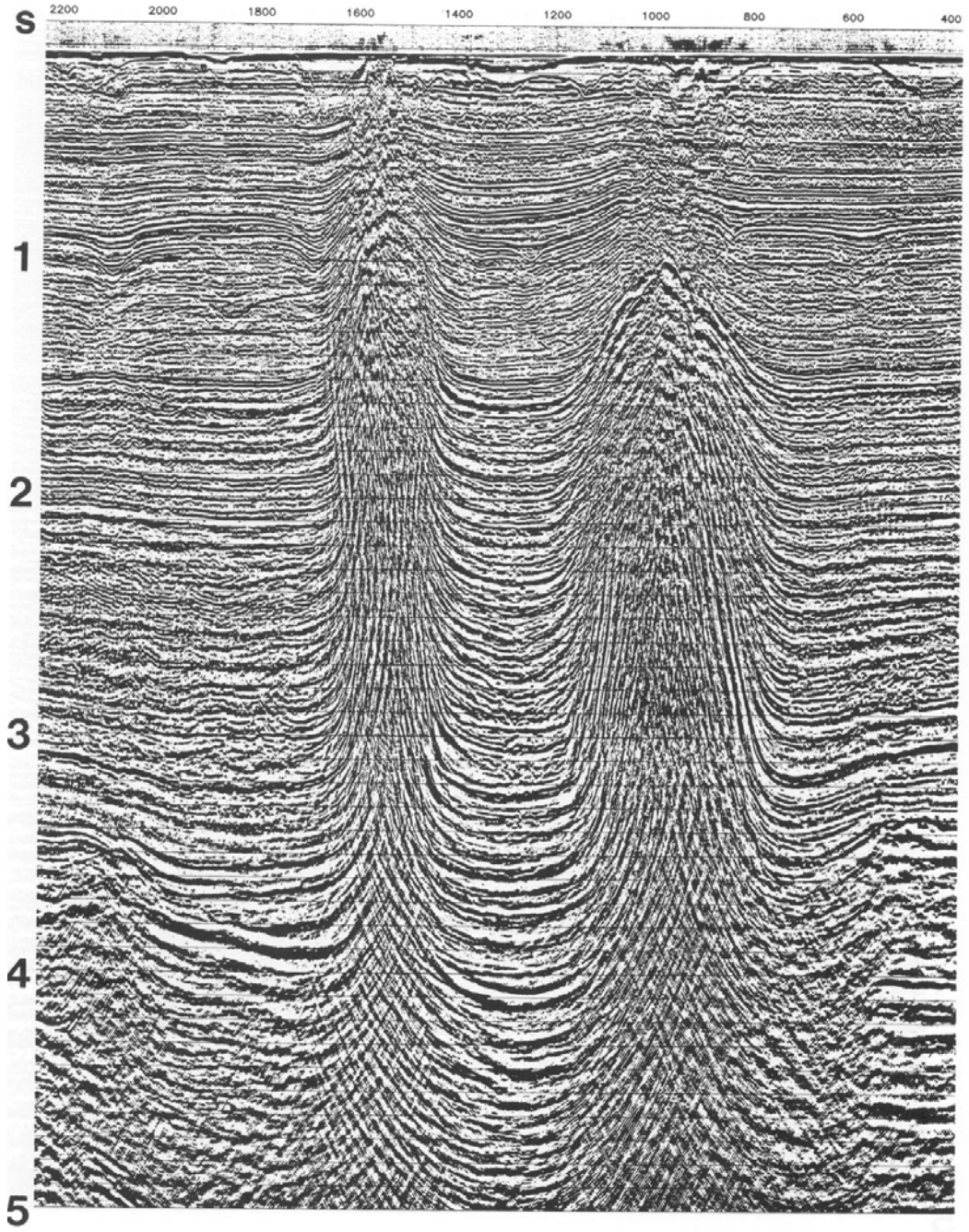


CMP stack

and

DMO stack

Comparison between
Migration of
CMP stack
and
DMO stack



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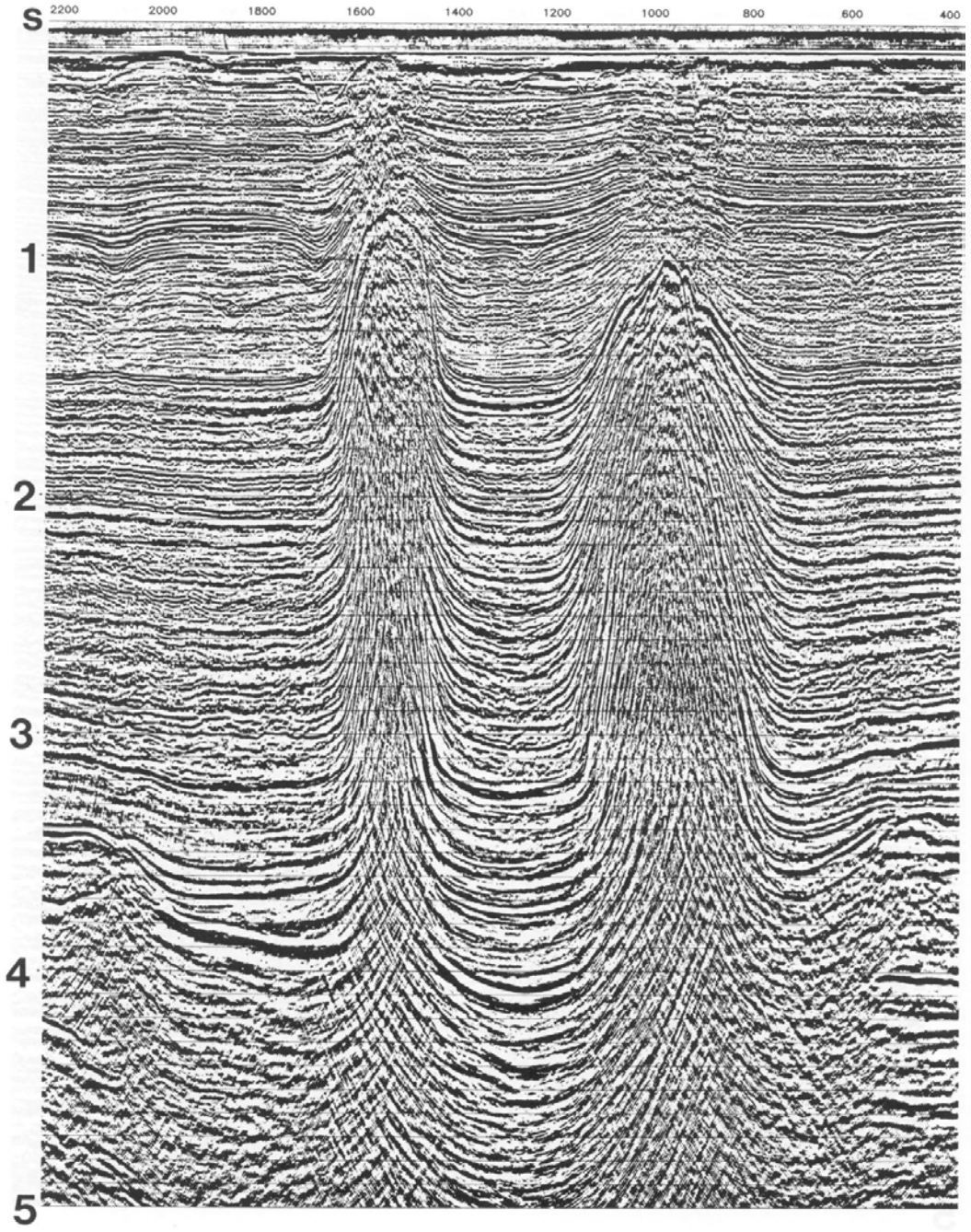
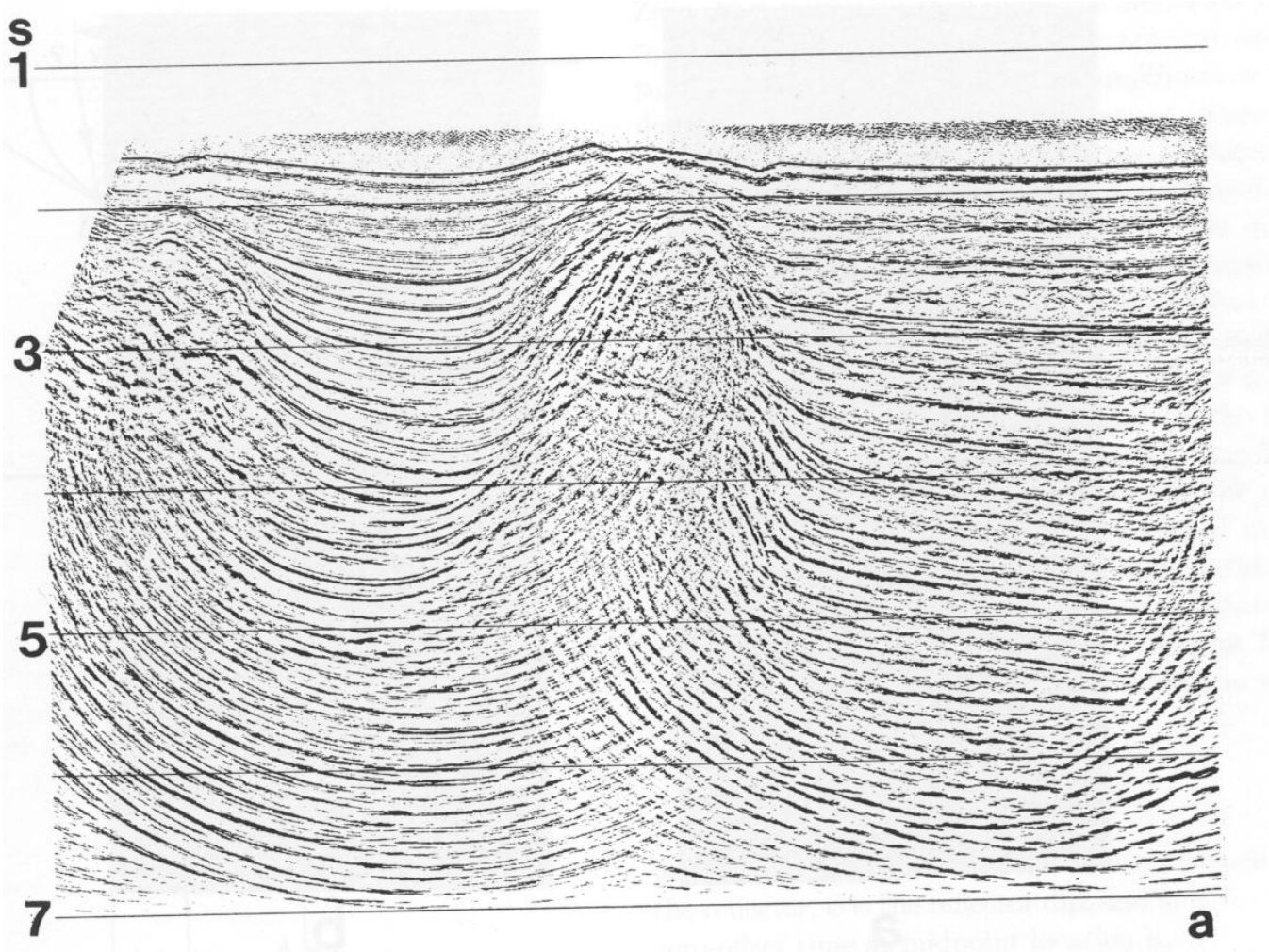


Comparison between
Migration of
CMP stack
and
DMO stack

Time migration of CMP and DMO stack

Time migration of CMP and DMO stack



Time migration of CMP and DMO stack