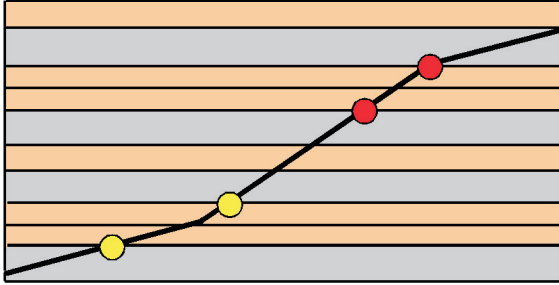


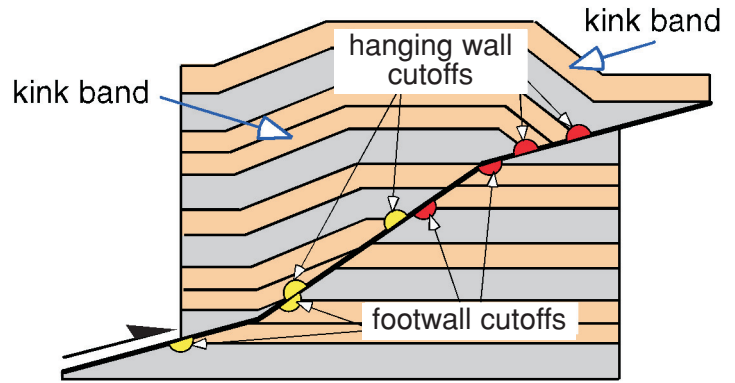
# Fault cutoffs and kink-band terminations

## *balanced model*

Incipient fault with markers along fault surface.

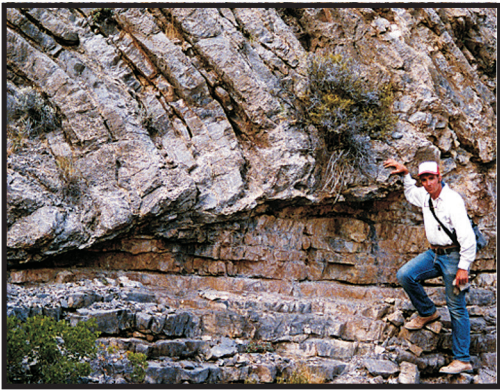


Fault with offset markers and cutoffs. Note that hanging wall kink bands terminate downward into the fault surface.



## *in outcrop*

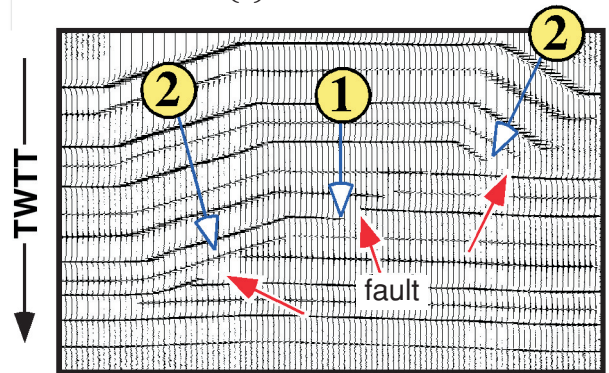
Fault cutoffs in outcrop, Mississippian Joana limestone, Nevada, U.S.A.



(Hook et al., 1997)

## *in synthetic seismic*

Seismic forward model showing fault cutoffs (1) and downward terminating kink-bands (2).



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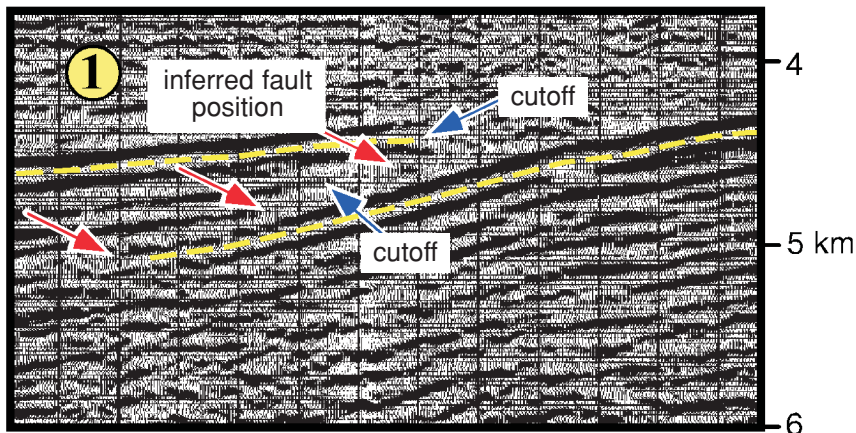
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# Recognizing and interpreting faults in seismic section



*Data courtesy of Texaco, Inc.*

## ***fault cutoffs***

Abrupt terminations (cutoffs) and duplications of prominent reflections constrain the position of a gently dipping thrust fault. (2-D seismic data, Permian basin, Texas, U.S.A.)

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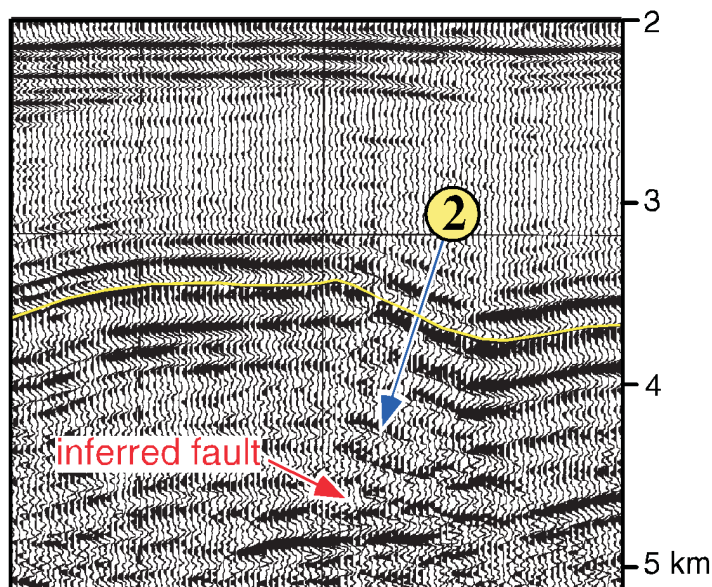
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# Recognizing and interpreting faults in seismic section

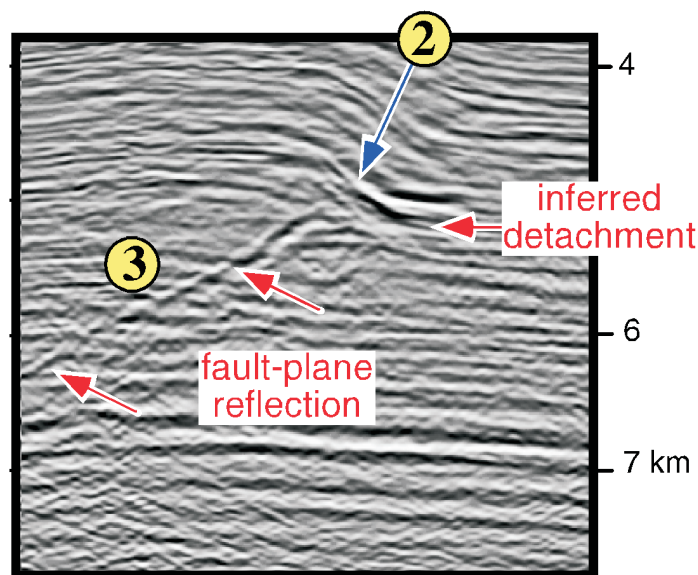
## ***kink-band terminations***

Thrust faults and bed-parallel detachments can be identified by the abrupt, downward terminations of kink bands. Terminations are generally marked by regions of dipping reflections above horizontal or more gently dipping reflections, and may contain fault cutoffs. Dipping reflections in kink bands represent strata folded in the hanging wall of a thrust/reverse fault or detachment; whereas, horizontal or more gently dipping reflections represent footwall strata below the fault or detachment. Thus faults and/or detachments should be interpreted at the transition between these two dip domains.



*Data courtesy of Texaco, Inc.*

Downward terminating kink band (2) defines the position of a gently dipping thrust. (3-D seismic data, Permian basin, Texas, U.S.A.).



*Data courtesy of Mabone, Ltd.*

Downward terminating kink band (2) and fault-plane reflection (3) define the position of a thrust fault that shallows to an upper detachment. (3-D seismic data/Niger Delta).

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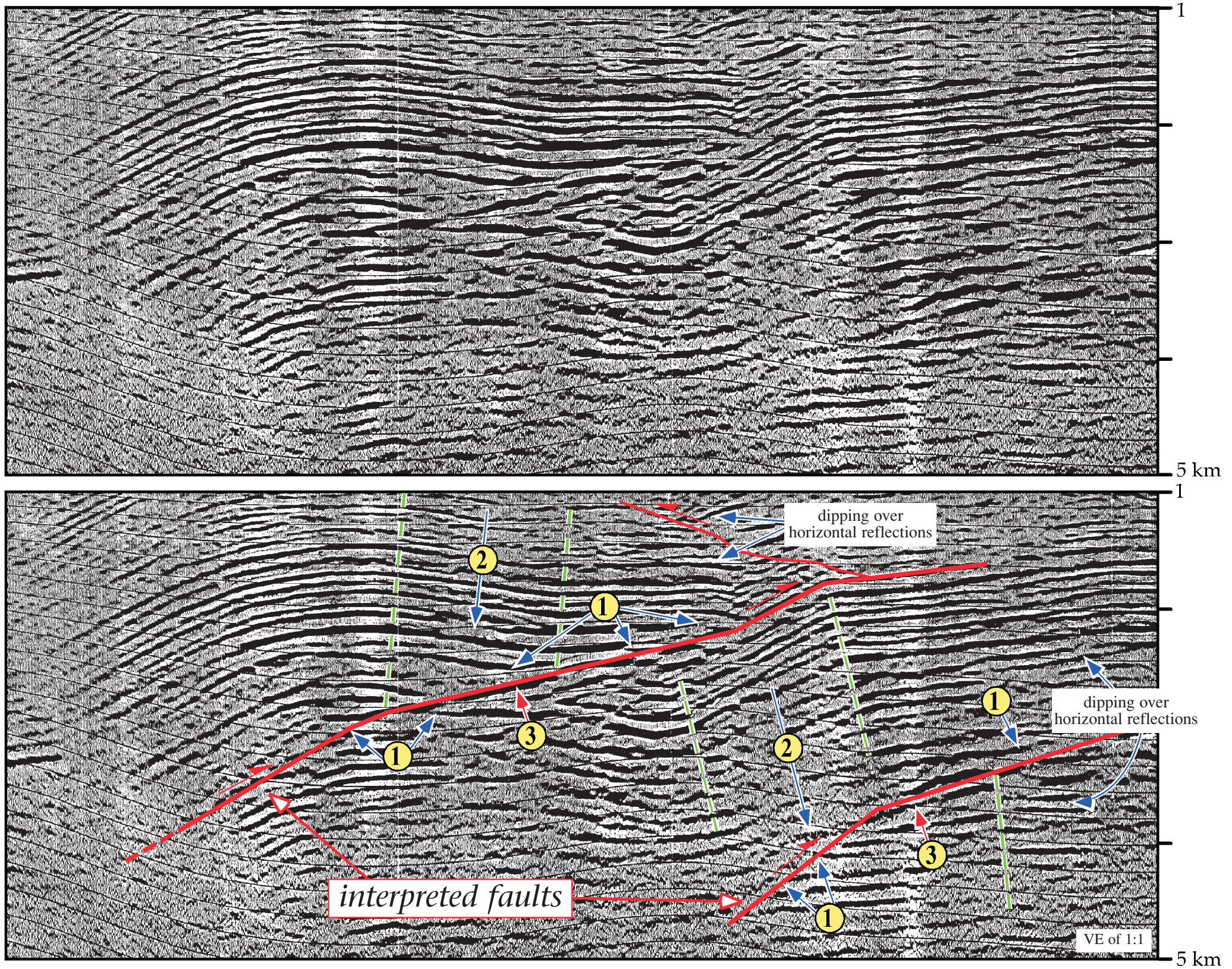
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# Interpreting thrust ramps on seismic sections

## Seismic Example: Peruvian Andes



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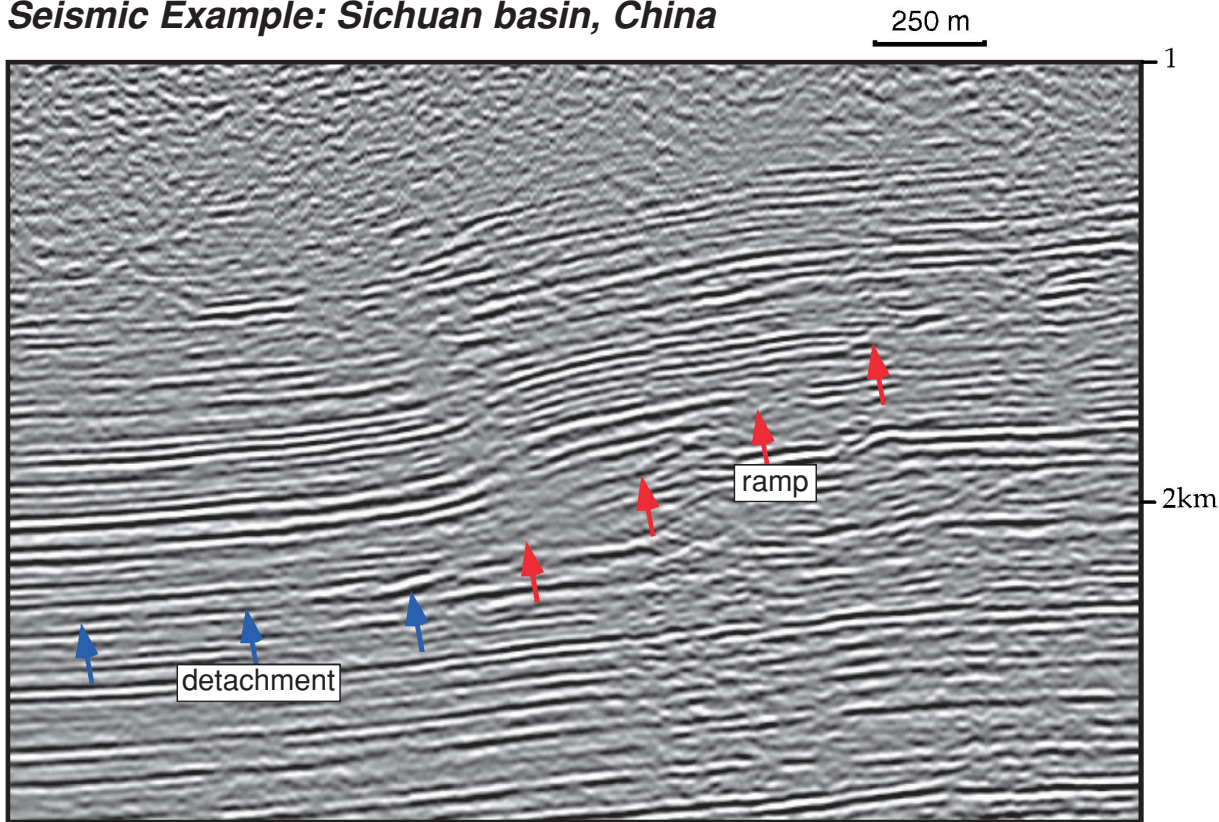
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# Recognizing detachments

## *Seismic Example: Sichuan basin, China*



*Data courtesy of CNPC*

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