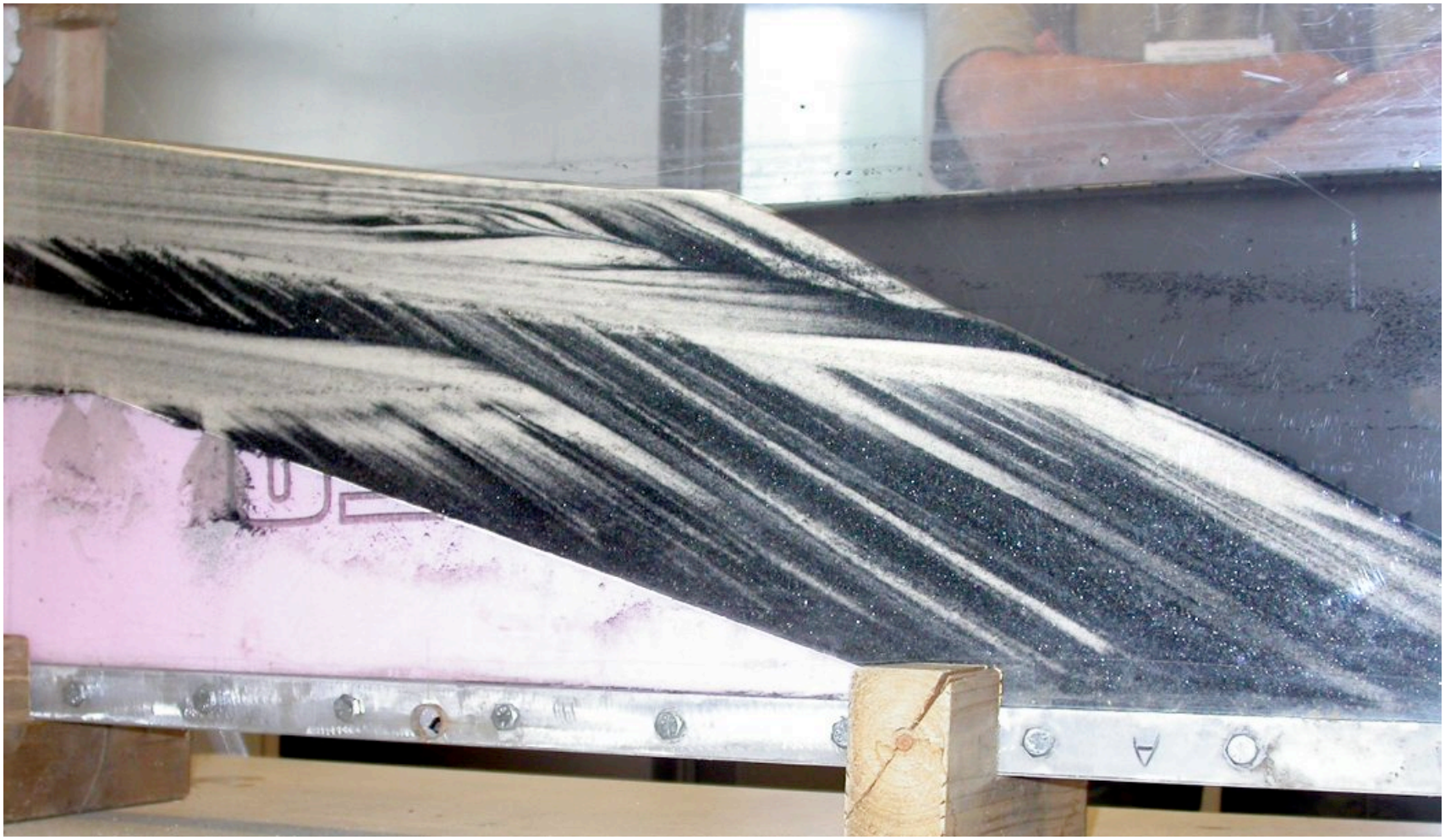
Desktop Delta experiment, images of target deposits

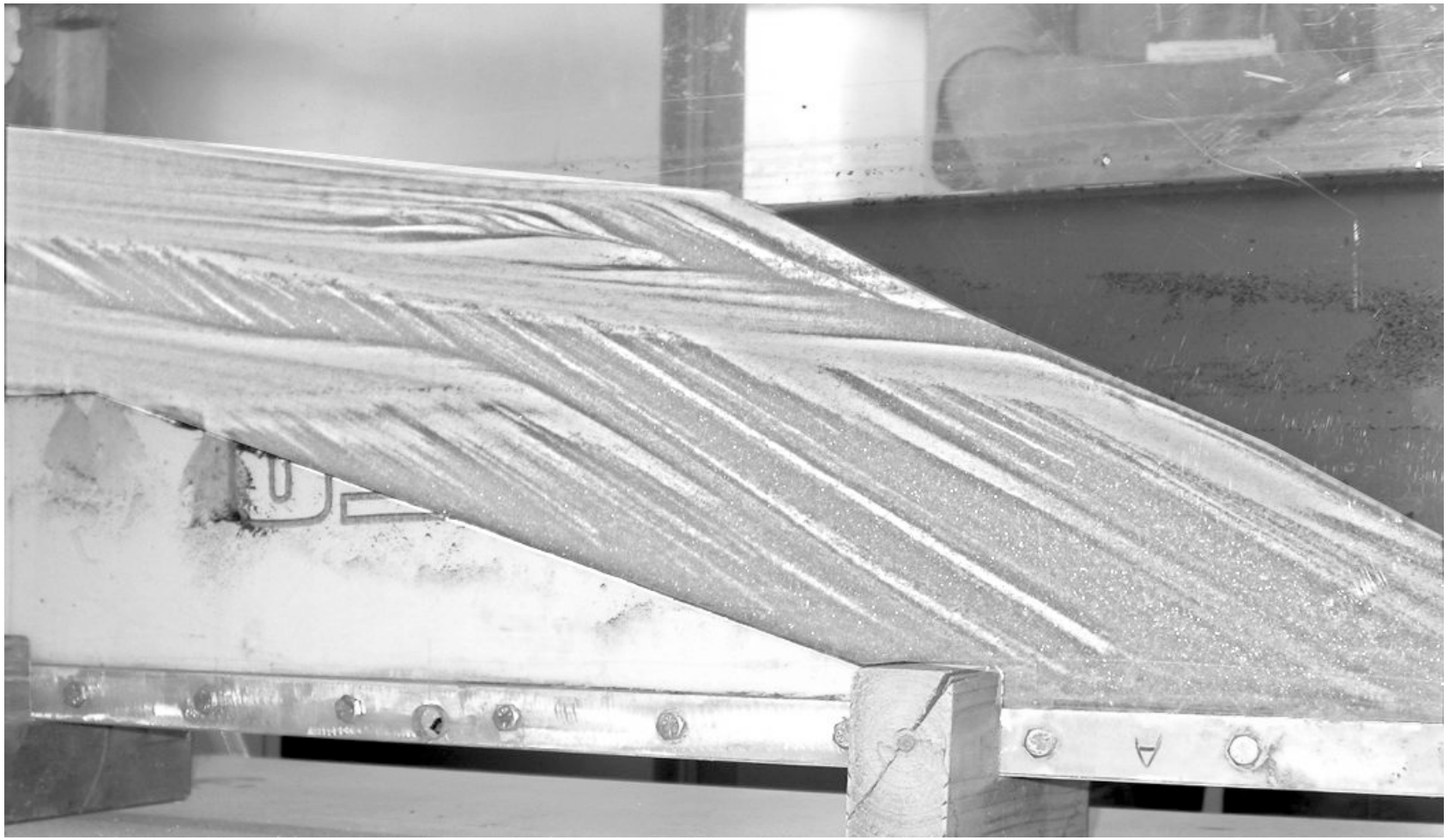
The following two images were taken of a desktop delta deposit that I created in advance of the exercise. I know the parameter that I varied, but the students do not. The only parameter that I changed was base level.

How this deposit was created:

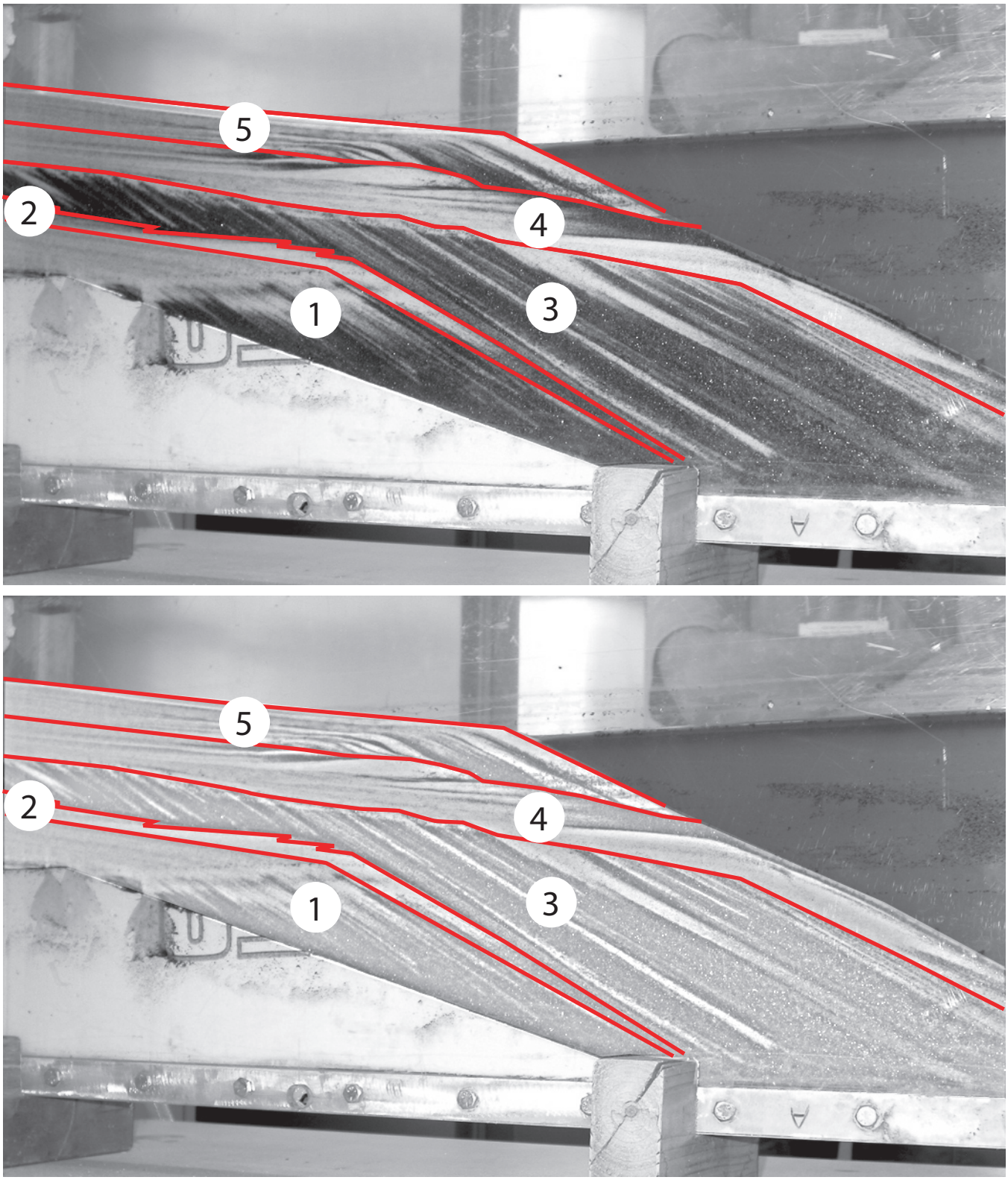
1. Base level and water+sediment supply were initially constant. The system prograded.
2. Base level was increased by a few centimeters, causing backstepping of facies, followed by progradation.
3. Base level was lowered about 1 cm below the shelf/slope break, causing erosion of topsets and progradation of very white clinoforms.
4. Base level was increased dramatically (about 10 cm), forcing backstepping, followed by progradation.



Desktop Delta experiment, target deposit.



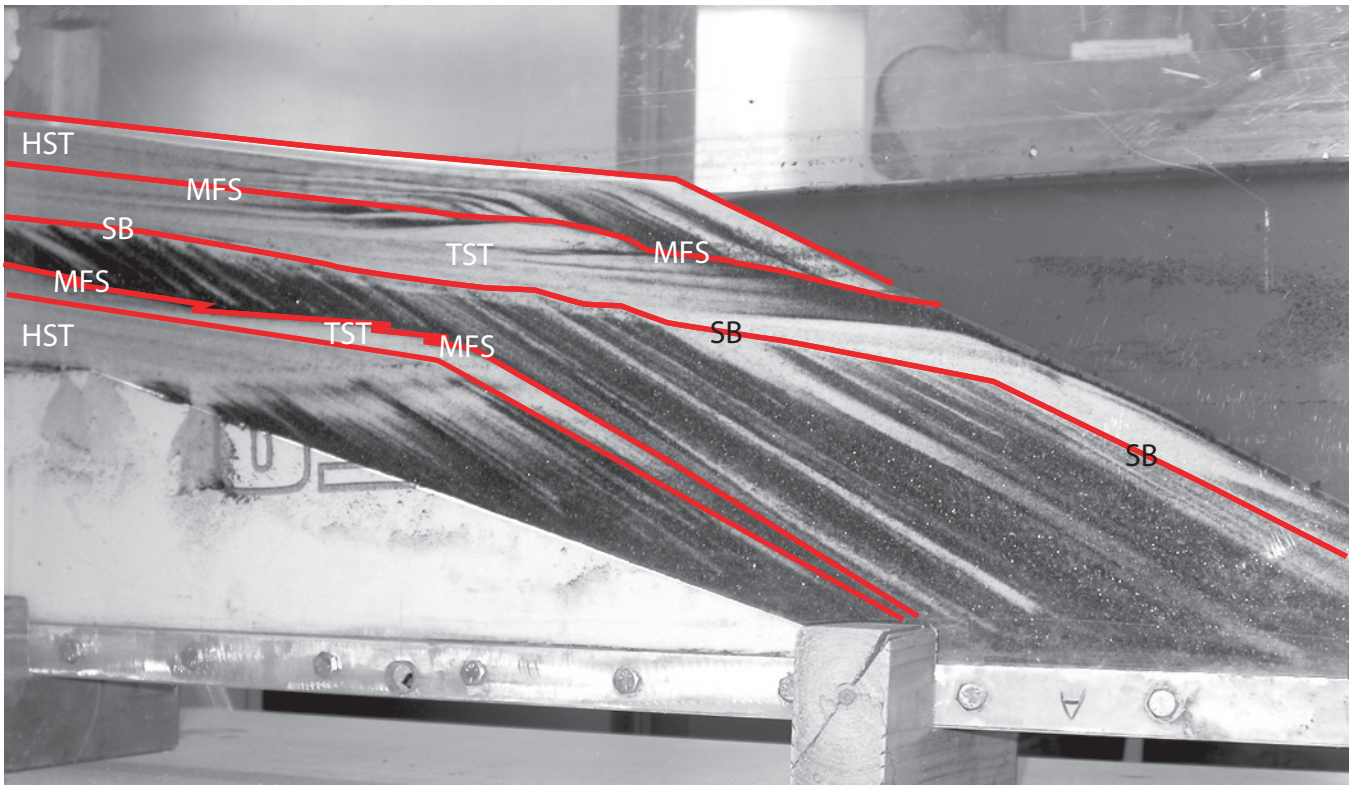
Desktop Delta experiment, target deposit, modified for sketching.

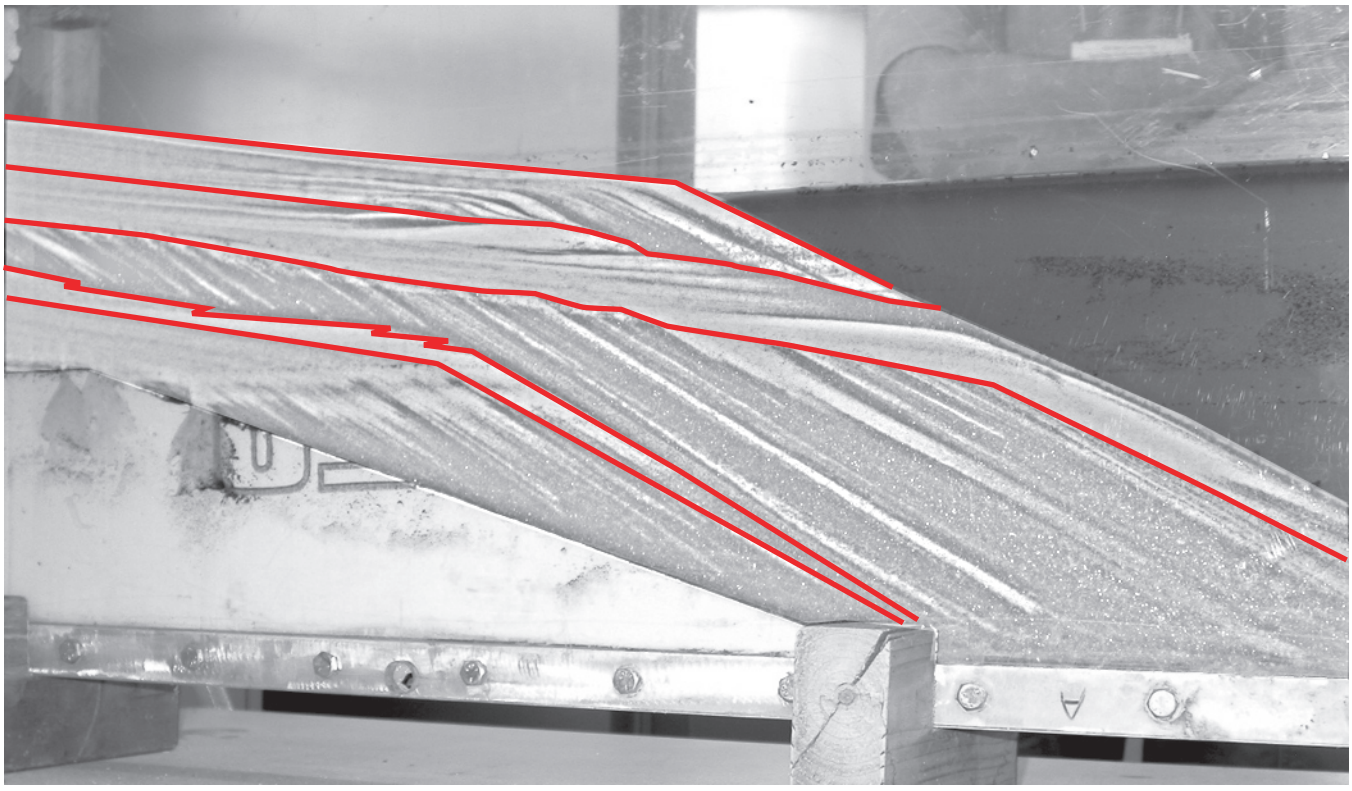


1. Initial progradation of delta: base level held constant
2. Retrogradation and 'backstepping' of delta: Base level increased
3. Progradation of delta: base level held constant at higher level

Base level drop to create erosional surface between packages 3 and 4

4. Retrogradation and 'backstepping' of delta: Base level increased
5. Progradation of delta: base level held constant at higher level





SB: Sequence Boundary
HST: Highstand Systems Tract
TST: Transgressive Systems Tract
MFS: Maximum Flooding Surface
LST: Lowstand Systems Tract

Desktop Delta experiment: example of student results