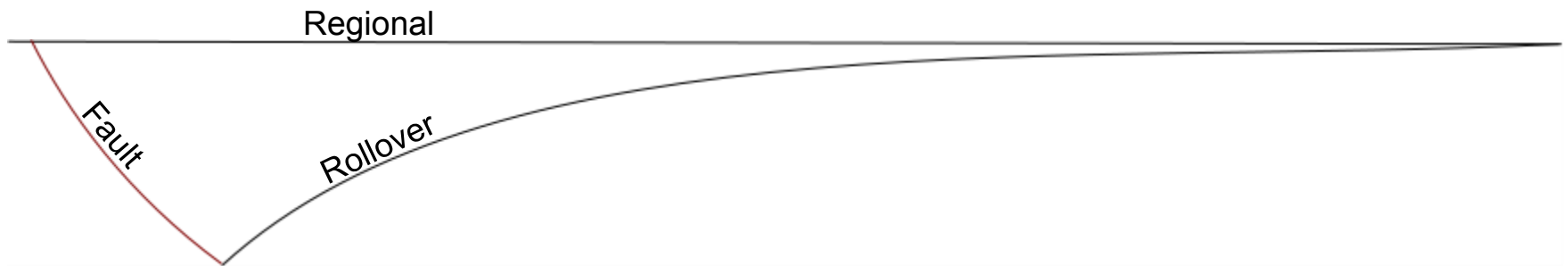# Vertical shear with constant heave – Chevron method

Q1. Complete the listric fault upto the detachment level using vertical shear with constant heave

Q2. Measure the detachment depth from the regional in inches/cm
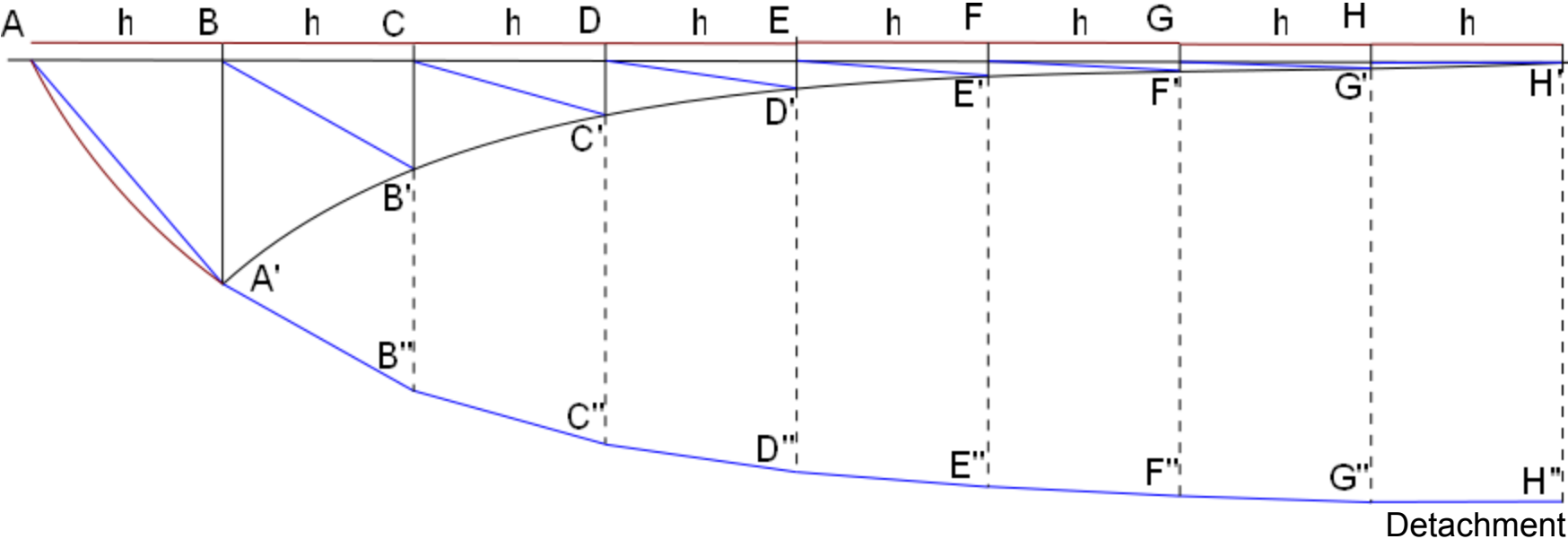

Regional

Fault

Rollover

Construction

1. Construct a regional line from tip of fault to the end of the profile (point where there is no displacement of the footwall)

2. Measure the heave (h) from the first hanging wall cutoff

3. Divide regional line by vertical lines of constant spacing h

4. Displacement vectors are drawn from the regional to the hanging wall (B to B', C to C' and so on)

5. The displacement vectors are translated along <u>vertical shear planes </u>to touch the tip of the unfinished fault plane

6. The line segment between the shear planes marks the fault plane.

7. Complete the fault plane till it flattens to the detachment

8. Smoothen the constructed plane by drawing a free-hand curve
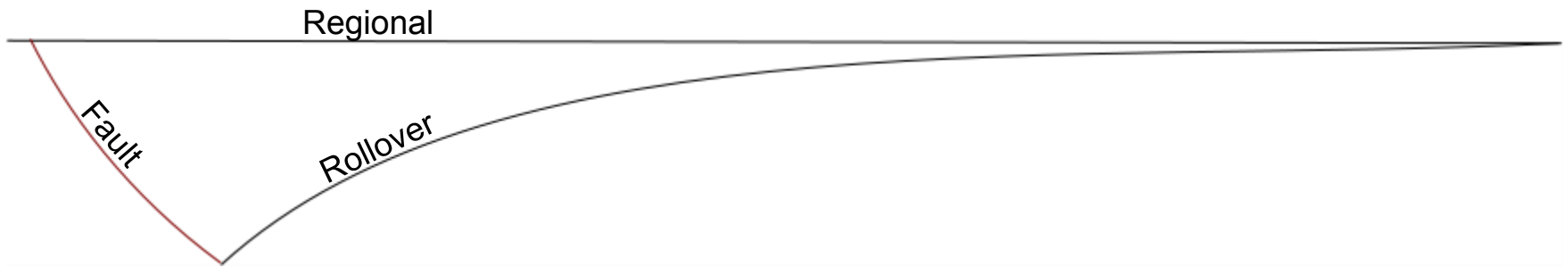
Solution

A1. Fault plane constructed

A2. Detachment depth from regional is 6.5 cm (in A4 paper)

Detachment

Inclined shear

Q1. Complete the listric fault upto the detachment level using 35° (from vertical) antithetic shear

Q2. Measure the detachment depth from the regional in inches/cm

Regional

Fault

Rollover

Construction

1. Construct a regional line from tip of fault to the end of the profile (point where there is no displacement of the footwall)

2. Measure 35° from vertical, and let the line pass through the first hanging wall cut-off

3. Mark distance h' at the intersection of the 35° line and the regional

4. Divide regional line by vertical lines of constant spacing h'

5. Displacement vectors are drawn from the regional to the hanging wall (B to B', C to C' and so on)

6. The displacement vectors are translated along inclined shear planes to touch the tip of the unfinished fault plane

7. The line segment between the shear planes marks the fault plane.

8. Complete the fault plane till it flattens to the detachment

9. Smoothen the constructed plane by drawing a free-hand curve

Solution

A1. Fault plane constructed

A2. Detachment depth from regional is 4.1 cm (in A4 paper)