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MA Geography Semester II
Paper CC9 (Practical)
Unit IV
Topic - Geological Section

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M. A. Geography
Semester - 2 (2019-21)
CC - 09 Practical
Topic - Geological Section and Interpretation of Geological Map.

Q. Draw geological section along give A–B line. Interprete the geological structure of geological history of the area.

Ex-3 Geological Map

The given geological map represents an area having rock formations of two distinct geological period separated by unconformity i.e. the erosional surface separating rock beds of two different geological periods. The upper series comprises of Mudstone, Marl, Limestone and conglomerate while Lower series have upper shale, red sandstone shale, sandstone, mudstone and grit rockbeds. Both series have inclined structure. The Lower series shows faulting.

Drawing Geological Section

1. Draw profile along line A B with the help of Contour lines.
2. Mark fault on A–B Line and project it vertically upto profile. It is fault Line.
3. Draw strike lines on the map separately for upper series and Lower series.
4. Find out Dip for upper series and Lower series.
5. Mark all the beds on A–B line, project them vertically upto profile.
6. Draw bedding planes according to Dip (Degree and direction)
7. Shade all the beds.

Interpretation of the geological map.

The given geological map possesses sedimentary rocks of two distinct geological formations separated by Line of unconformity.

Series	Rock Beds	structure
Upper series	Clayey Mudstone, Marl, Limestone	Inclined from east to west
	conglomerate – superficial deposit.	
	Unconformity	
Lower Series	Upper shale, Red shale, Sandstone, Mudstone, Grit	Inclined and Faulted.

Geological history –

The ~~rock bed~~ sediments forming rock beds of lower series were deposited in some suitable basin of sedimentation in the order of grit, mudstone, sandstone, shale, red sandstone and upper shale. During long geological periods the rock beds were formed by different types of sediments due to temperature and pressure. Later the rock beds came above sea level by some earth movements which caused tilting of beds. As a result the rocks of older/lower series show Inclined structure.

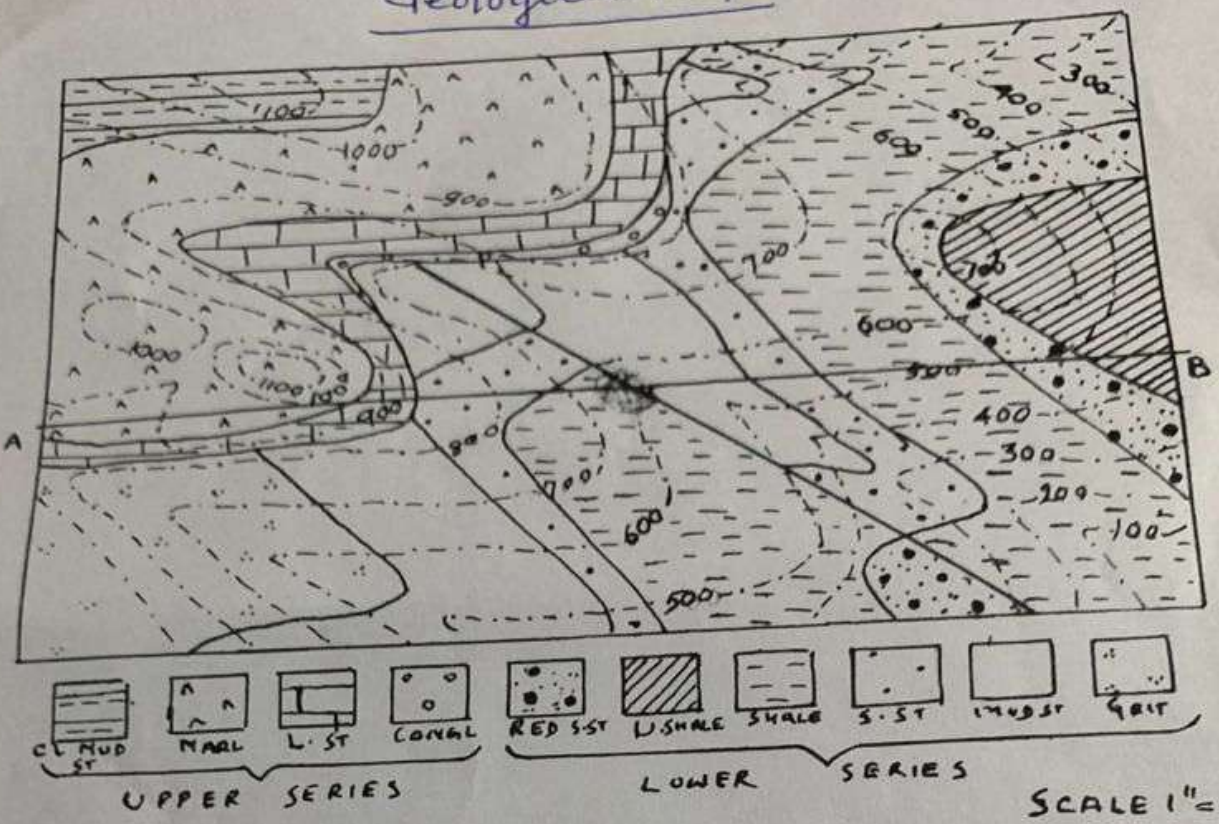
These rock beds were subjected to subaerial erosion. Also the rocks experienced faulting. The Vertical displacements of rock beds along fault line is 300 feet.

After long period of erosion, the region once again experienced submergence and a new cycle of sedimentation. The new deposits were formed in the order of Limestone, marl and clayey mud stone. Again the new rock beds came above sea level by earth movements. As a result the rock beds show inclined structure.

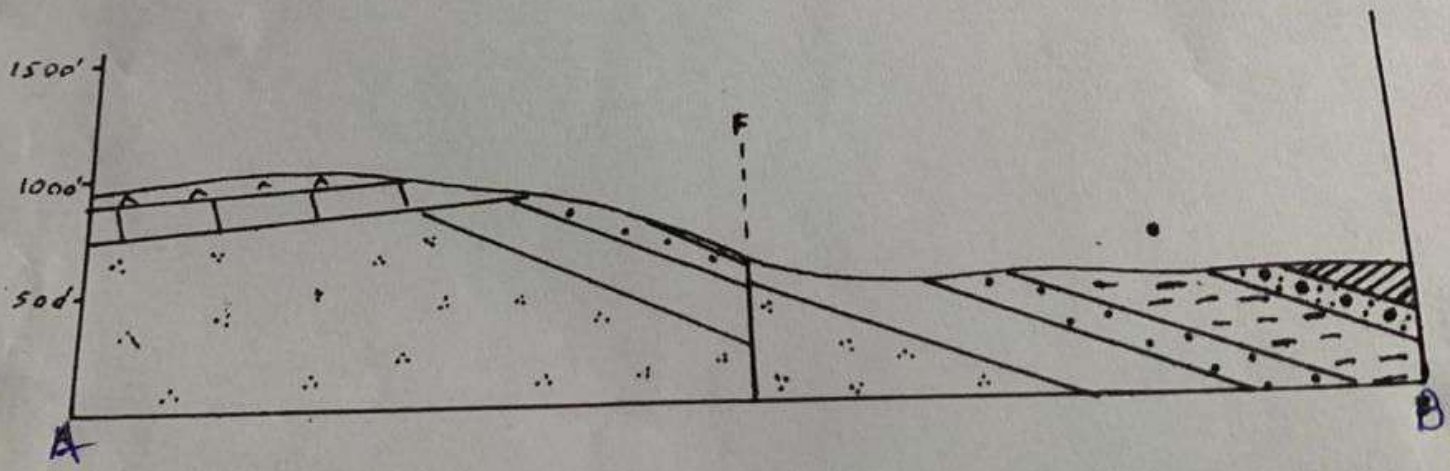
The conglomerate bed forms superficial deposit i.e. deposit by river at a place where there is sharp change in gradient. It does not form a separate bed rather it forms a thin sheet like deposition on the surface.

Relief – The highest part is found in north west corner where height is above 1100 feet. The lowest part is found along south east where height is less than 100 feet. The general slope of the land is from NW to SE. There are three rivers flowing in the region. The direction of river flow indicated by contour lines is from NW – SE, and W – E. These rivers have deposited conglomerate brought from some other part. Present relief is the result of river action and other sub-aerial erosion.

Geological Map



Geological section along Line A—B.



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