

## LATERAL ACCRETION IN MEANDERS

1. The flood causes erosion on outside of the meander. Erode channel by 4cm on the right hand side.
2. the flood subsides and the slowing water deposits a sequence of sediments. Place a segment next to the left hand bank.
3. A new flood causes further erosion. Erode the channel by a further 4cm on the right hand side.
4. As the flood subsides more sediment is deposited. Place another segment next to the first one.
5. Repeat three more times.

The sequence from the bottom up is pebbles, plane bedded sand, cross bedded sand, silt and mud.

Do the beds fine upwards (normally graded) or coarsen upwards (reverse grading)?

Note the vertical sequence at any one point is not deposited from a single flood event but from several. In time the meander will change direction and begin to erode the sediments just deposited. If sea level is rising and there is net deposition then part or all of the sequence will be preserved.

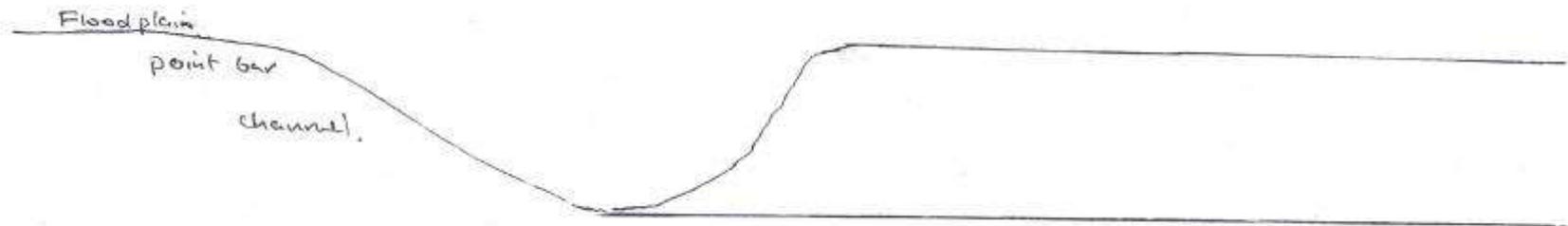


Diagram 1

## Teacher's Section

*This activity can be done using black and white photocopies in which case photocopy one copy of diagram 1 for each student and then photocopy diagram 2 and cut into sigmoid segments along the lines and give 5 segments to each student. The segments can be glued down and the student then has a record of the results or the segments can be placed on the paper so that at the end the segments can be collected up and kept by the teacher. Alternatively for each five students photocopy five copies of diagram 2 onto different coloured paper and students are given one segment of each colour. Using coloured copies emphasises that the vertical section is made up from several flood events. The end result is shown in diagram 3.*

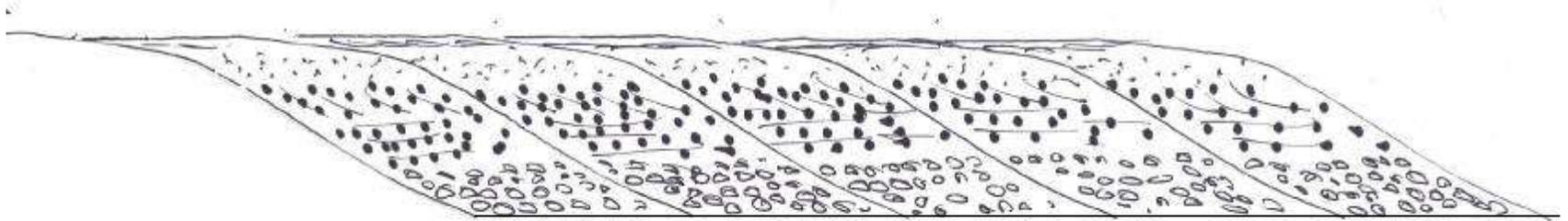
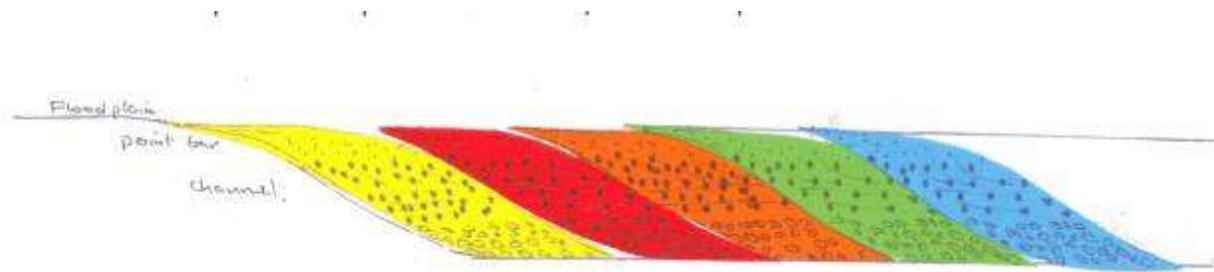


Diagram 2



**Diagram 3**